MMiR
MILITARY MINIATURES in REVIEW
no. 57

Baby Back Ribs: Tamiya creates a conversion of one of its own

Brummbär unplugged!

The CyberHobby kit from top to bottom

Shot with Cupid's Arrow: Building Bronco's Archer

WARNING: This magazine contains articles that may contain detailed descriptions of painting and weathering techniques, pink slime, product placement photos, descriptions of builds other than 1/35, peanuts, vehicles operated by animals that may become delicious pork products, or fictional subjects. Reader discretion is advised.

US AND THEM: The Basics of Soldering

Realistic Weathering: Something just a little bit different

sIG Heil? AFV Club's sIG 33 German 15cm Gun

SHORT TAKES • MINI MEN • COOL STUFF GALORE

$9.95 CANADA $15.95
03>
7 25274 90024 4

mmiR 57

CONTENTS

Baby Back Ribs **24**
Tamiya creates a conversion of one of its own.

Brummbär unplugged! **32**
The CyberHobby kit from top to bottom.

US AND THEM: **52**
The Basics of Soldering

Realistic Weathering **58**
A little something different.

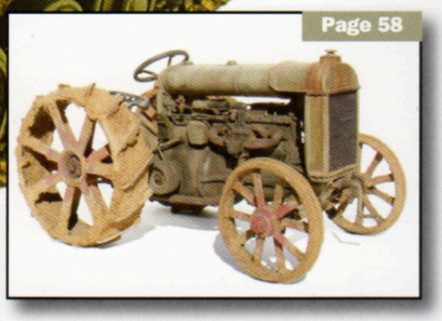
sIG Heil? **76**
The AFV Club sIG 33 German 15cm Heavy infantry Gun.

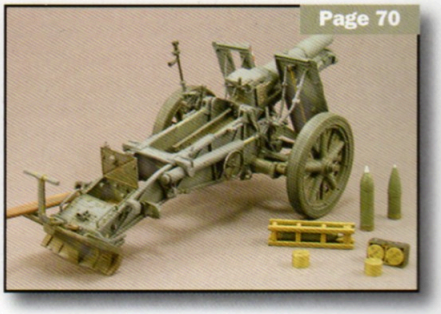
Shot with Cupid's Arrow **42**
Building Bronco's beautiful Archer.

Features

Short Takes **8**
Our look at all the latest dope from around the world.

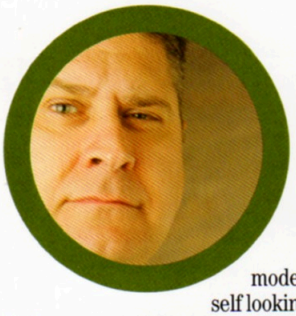
Mini-Men **70**
The usual peek at what's new on the figure front.





ON THE COVER:

You want German? We got German, baby! Kristof Pulinckx's exhaustive step-by-step of the CyberHobby Brummbär delivers the Teutonic goods. Combining two Griffon photo-etch sets, a pinch of Aber and a dash of ModelKasten, Kristof cooks up a brumbley-bear of epic modeling proportions. Check out the full story starting on page 32.



From Your Editor

I've been doing some thinking lately about what constitutes a good armor magazine and a good modeling magazine in general. Certainly there is the voyeuristic aspect—modeling porn if you wish. It is always a pleasure to look at attractive (scale) models. I indulge in this quite a bit myself (again, SCALE models). I love looking at finished and in progress models on the web. Of course, my primary interest is armor, but I have found myself looking at quite a few non-armor subjects. Although it could be regarded as heresy in these pages, I have even perused a few high-quality aircraft books. There are a few titles out of Spain that have really impressed me. The projects are almost like "clean tanks."

I also have enjoyed a lot of science fiction stuff. This is very much a crossover subject. Almost all of the building and finishing techniques are the same as armor modeling. Making objects look beat-up and weathered is the same in that genre as it is in this one. I know that many modelers frequently take a break (sometimes in secret) from hard-core armor modeling to visit that world (metaphorically only, I hope). I have tried to slant our editorial coverage ever so slightly in this direction with the Bandai Sci-Fi tank and most recently, the Pig Tank. The extensive showcase on weathering die-cast is another example of this tilt.

As many of you know, the techniques used in these projects can be highly useful in armor modeling. After all, much of what we do stemmed at one time from model railroading. Basic weathering practices such as drybrushing, oil washes and pigments (or pastels, as they were once known) all came from train guys. It was Shep Paine who first "harvested" these methods for armor modeling when he published his brief line of diorama work sheets in conjunction with Monogram many years ago.

I'm pushing the slant a bit further in issue 57 with a showcase on the work of Chuck Doan. I first ran across Chuck's work several years ago in the Internet. His theme is sort of railroad Americana. Old train engines, tractors, garages, gas pumps, you name it. I was amazed at the level of realism that he was able to achieve using readily available materials. He makes very practical use of many so-called artists' materials. Although I have been familiar with most of these for many years, it hasn't occurred to me to use them in the way that Chuck does.

There is also something very familiar about it and it took me a while to remember why. Then I was flipping though one of the Nordic Edge volumes and I saw one of Per Olav Lund's wonderful Norwegian building dioramas. When I read the article I was delighted to see that he is a huge fan of Chuck Doan's work and that Per's buildings are inspired by it. That was enough for me!

And so we bring you an extensive feature on many of Mr. Doan's projects. He carefully outlines all of the techniques used on them and I have extensively detailed the many products used by him in the accompanying MMiR Recce. I hope you enjoy it as much as I did.

Building is back in a big way in this issue with one of largest step-by-step features we have ever, well—featured. This is Kristof Pulinckx's exhaustive examination of the CyberHobby Brummbär and it's a subject that has long fascinated me.

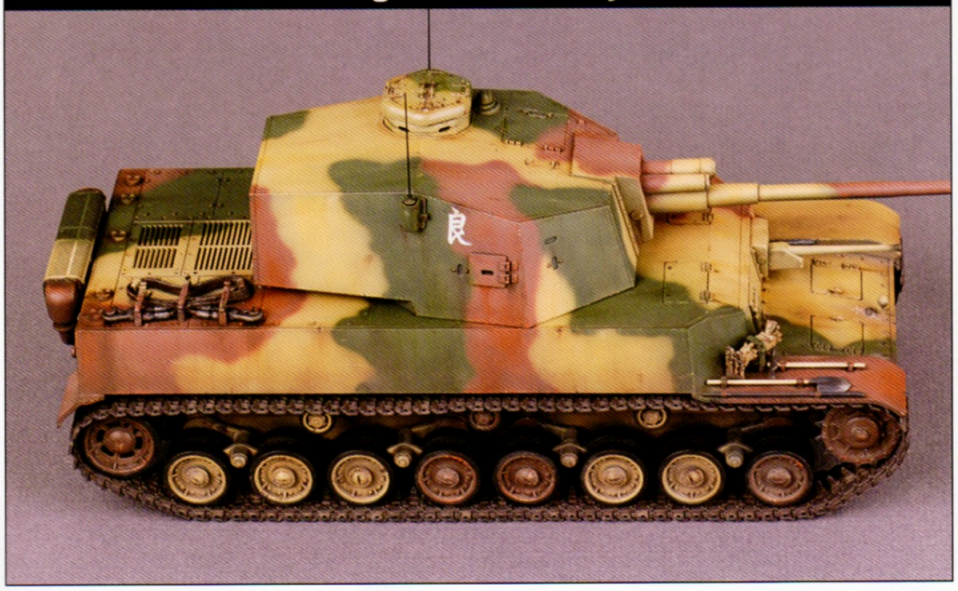
We have also finally gotten to Tom Jett's lengthy article on the beautiful Bronco Archer. This makes for two features Tom has done for us on the Valentine platform. I'm pretty sure we have him talked into doing one on the Bishop, although he did make me promise never to give him another Valentine!

Also in this issue, Jeff gives us his take on the Tamiya Enigma. This is quite an interesting model, in that it is essentially a conversion of an earlier kit. If you think of the recent Tamiya product line in this context, quite a few kits are possible. If it is a theme, rather than a coincidence, I hope they take it a bit farther.

To round out 57, we feature Rick Lawler's brief illustrated tutorial on soldering. I must admit (not without some embarrassment) that I am not currently familiar with this practice, although I plan on becoming proficient at it soon. And using Rick's article, it shouldn't be too long!

—Pat Stansell

Coming to an MMiR near you:



www.ampersandpubco.com

MMiR
MILITARY MINIATURES in REVIEW

Animal print pants outta control
PAT STANSELL

Editorial Contributors
CHUCK DOAN
TOM JETT
JEFF KLEINHENZ
RICK LAWLER
KEYSER SOZE

Mini-Men
JEFF KLEINHENZ

Big Time Nursey-Poo
SARAH WOOD

Advertising Sales
EMAIL: JEFF@AMPERSANDPUBCO.COM

Subscription Manager
JEFF KLEINHENZ
EMAIL: JEFF@AMPERSANDPUBCO.COM

Original Layout Concepts
MIKE RINALDI

Some of the Photography
PAT STANSELL

Some of the other Photography
CHUCK DOAN
TOM JETT
JEFF KLEINHENZ
RICK LAWLER
KEYSER SOZE

Pre-building and Shelf Emptier
BRIAN KEOUGH

Graduation Coordinators
VAL AND DICK TORIAN

Liaison to the NASA
ROGER HOUSTON

Expert letter writer
TONY BONITATIBUS

Military Miniatures in Review, Number 57, 2012.

MILITARY MINIATURES IN REVIEW is published bi-monthly by The Ampersand Group, Inc. 235 NE 6th Ave., Suite B, Delray Beach, Florida 33483. **Tel: (561) 266-9686 Fax: (561) 266-9786**. Email: **jeff@ampersandpubco.com**. Periodicals postage paid at Delray Beach, Florida and at additional mailing offices. POSTMASTER send address changes to The Ampersand Group Inc. 235 NE 6th Ave., Suite B, Delray Beach, Florida 33483.

For information and rates in the UK and Europe contact: Historex Agents, Wellington House, 157 Snargate Street, Dover, KENT CT17 9BZ Tel: 01304 206720 Fax: 01304 204528 email: sales@historex-agents.com

©2012, The Ampersand Publishing Group, Inc. All rights reserved. This publication may not be reproduced in part or in whole without written permission from the publisher, except in cases where quotations are needed for reviews. Postmaster: Send address changes to Military Miniatures, The Ampersand Group, Inc. 235 NE 6th Ave., Suite B, Delray Beach, Florida 33483.

Military Miniatures in Review will only return material if return postage is included with submission. MILITARY MINIATURES IN REVIEW is not responsible for damage which occurs in the mailing process.

Throughout this publication, trademarked names are used. Rather than put a trademark symbol in every occurrence of a trademarked name, we are using the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

Created in the U.S.A.

Short Takes

what's new, anyway?

Accurate Armour

Accurate Armour does not miss a beat even with the Hobby Boss styrene Land Rovers out now. It's a real case of improvise, adapt and overcome with their update sets for the Hobby Boss Land Rover WMIK: **LRA001, O-WMIK 1997-2004, $25.00; LRA002, O-WMIK TES (T/H) 2005-2007, $33.33; LRA003, E-WMIK TES (T/H) 2007-2010, $37.50** and **LRA004, R-WMIK TES (T/H) 2008+, $37.50.**

It's probably just a strange coincidence that we had a Diamond T in MMiR 55, but recent intel gathered from sources that we cannot disclose suggests Accurate Armour is about to go nuts on this theme. Here is a monster list of Diamond T goodness that is coming to a future near you: **K155, Cranes Mk-1 40-Ton Trailer (Early UK Produced for Diamond-T); K171, Cranes Mk-1/2 40-Ton Trailer (Late UK modified for Diamond-T); K174, Rogers M9 45-Ton Trailer (US Produced for Diamond-T); K181H, Diamond-T M980/981 6x4 Tractor (Hercules engine) Hard Cab; K181S, Diamond-T M980/981 6x4 Tractor (Hercules engine) Soft cab; K182H, Diamond-T M980/981 6x4 Tractor (Rolls-Royce engine for Post War UK) Hard Cab; K182S, Diamond-T M980/981 6x4 Tractor (Rolls-Royce engine for Post War UK) Soft Cab; K183H, US Army WW-2 M19 Diamond-T Tank Transporter M980/981 Tractor & Rogers M9 45-Ton Trailer Hard Cab; K183S, US Army WW-2 M19 Diamond-T Tank Transporter M980/981 Tractor & Rogers M9 45-Ton Trailer Soft Cab; K184, Israeli Army M19 Diamond-T Tank Transporter M980/981 Tractor & Rogers M9 45 Ton Trailer Boxed Set** and **K185, Israeli Army Diamond-T Tank Transporter M980/981 Tractor & Dyson 50 Ton Trailer Boxed Set.**

Website: www.accurate-armour.com

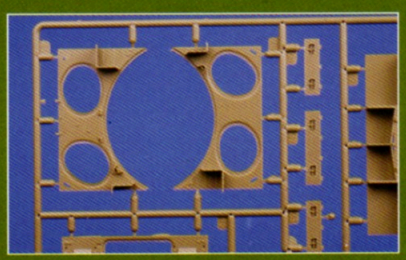
AC Models

Andrew Cairns has combined his Special Forces Humvee Crew that we looked at in Mini Men 56 with some huge hunks of resin for converting the Tamiya or Academy kit to make **ACM35004, Special Forces Humvee conversion kit for NZSAS, Afghanistan, 75.00 NZD.** From what we can tell, this is a pretty easy conversion that considerably changes the look of the base kit.

Website: www.acmodels.co.nz

AFV Club

Well folks, the Duster—**35042, M-42 Duster Self-Propelled Anti-Aircraft Gun (Late Type)**—has arrived. It's quite an impressive kit with gobs of parts and amazing detail. It's a safe bet that we'll pop this one out for a full review very soon.



Other new kits from The Club include two variants: **35185, British Infantry Tank Mk. III Valentine Mk. II** and **35198, U.S. "Water Buffalo" LVT-4 (Late Version).** They also decided to reissue one of our personal favorite Centurion versions: **35124, IDF Shot KAL 1973.**

AFV Club has not been slacking off when it comes to providing useful accessories either. Two new add-ons, **AG35035, Sd.Kfz.231/232 Barrel & Clearance Indicator Pole** and **AG35034, UK 95mm Howitzer Ammo Set** are now available. The hottest news in accessories from these guys has to be their new reflective films to give the optics on your modern vehicles that polarized look: **AC35016, For M1A1/M1A2 Abrams; AC35017, For M1A1 AIM/M1A2 SEP; AC35018, For USMC LAV-25 Family** and **AC35021, PC. Panel for Simulating Modern Vehicle Windshield/Lens/Sensor Head-up Display Accessories.** We will fill you in on how these anti-reflective coatings work soon.

On a final note, be on the lookout for some really interesting new releases in the near future. We have heard, but cannot yet confirm, that they have an M109 self-propelled howitzer in the works.

Website: www.merit-intl.com

AK Interactive

AK Interactive has been quite prolific of late. This update is no exception, with new offerings in several categories. There are three new DVD titles, **AK 095, German Boxer; AK 096, OshKosh M-ATV** and **AK 117, Enamel Weathering Techniques Washes, Fading and Oils.**

Along with the DVD title on the M-ATV, you can get a nice picture book: **AK 097, OshKosh M-ATV Reference Book.** If you are interested in both, they do come together in a combo pack: **AK 400, OshKosh M-ATV Reference Book With AK-096 Reference DVD.**

The fun doesn't stop there. AK has been really busy turning out paints and effects to add plenty of zing to your latest creation. Here's the list since last issue: **AK 118, Gravel and Sand Fixer Glue; AK 119, Perfect Cleaner - Universal Cleaner for Acrylic Paints; AK 120, OIF & OEF - US Vehicles Weathering Set; AK 121, OIF & OEF - US Vehicles Wash; AK 122, OIF & OEF - US Vehicles Base Color; AK 123, OIF & OEF - US Vehicles Streaking Effects; AK 124, German Red Primer Colour Modulation Set; AK 131, Olive Drab Color Set; AK 300, Dark Yellow Wash** and **AK 550, Afrika Korps Colors Set.**

Two new varieties of those handy little chains are: **AK 230, Rusty Tow Chain Medium** and **AK 231, Rusty Tow Chain Big.**

Website: www.ak-interactive-usa.com

Alpine

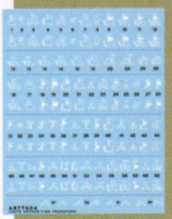
There is no such thing as having too many tiny Germans. Alpine's latest 1:35 scale figures have a Wehrmacht flavor to them: **35136, Panzer Officer 1 Pz. Div. #1, $18.00** and **35137, Panzer Officer 1 Pz. Div. #2, $18.00.** You can get both in one package as **35138, Panzer Officer 1 Pz. Div., $34.00.**

As far as big scale goes, it's all about the SS. The new **1:16 scale offering is 16016, Totenkopf Grenadier, $55.00.** This guy is straight from the Russian front where Totenkopf did most of their fighting and is armed with a captured PPsH submachine gun.

Website: www.alpineminiatures.com

Archer

Archer has released two new dry transfers sets since we talked last: **35362, Sherman Basics, $7.95** and **35363, Modern US Insignia Stars, $6.95.**



It seems they are traveling further and further down the slippery slopes of decal madness as they continue to release what they call "wet transfers" with **77024, Early WWII German Tactical Symbols (1935 - 1942), $6.95** and **77025, Late WWII German Tactical Symbols (1943 - 1945), $6.95.**

Their unique resin detail lineup continues to grow as well: **88069, S-scale Treadplate for GP7 and GP9 Locomotives, $17.95; 88070, S-Scale Treadplate for GM/EMD, Alco and Baldwin Locomotives, $17.95; 88071, S-Scale Railcar Rivets (7/8-inch), $17.95** and **88072, S-Scale Railcar Rivets (5/8-inch), $17.95.** Yeah, we know that railroad stuff doesn't really belong here, but rivets and tread plate are great scratch building details for any scale. One last thing—they now offer their awesome decal paper separately: **88072, Clear decal film, $17.95.**

Website: www.archertransfers.com

Black Dog

More wedgies from Black Dog are in store: **D35012, M20 Base; D35013, Panther Turret Base; D35014, Wall with Sandbags Base; D35015, Sandbag Armored Wall 1; D35016, Sandbag Armored Wall 2; D35018, Destroyed Humvee - Iraq, Afghanistan** and **D35019, Street With Ruined Wall.**

These guys are still pouring on the figures, too. We like that they are paying a lot of attention to modern subjects, and not just U.S. guys: **F35042, German Tank Crew in Afghanistan No.1; F35043, German Tank Crew in Afghanistan No.2; F35044, German Army Tank Crew in Afghanistan; F35045, German Soldier/EMT Aladin/Afghanistan; F35046, German Soldier in Afghanistan; F35047, German Soldiers Team/EMT Aladin Afghanistan; F35048, US Soldier in Iraq #1 (Operation Freedom); F35049, US Soldier in Iraq #2 (Operation Freedom)** and **F35050, US Soldier Team in Iraq (Operation Freedom).**

We haven't seen much in the way of 1:48 scale accessory sets lately (that's where Black Dog got their start), but they have been very busy with 1:35 scale offerings: **T35062, Australian Equipment Accessories Set; T35063, Australian ASLAV Accessories Set; T35064, Australian Bushmaster Accessories Set; T35065, US RSOV Rangers Accessories Set (Hobby Boss); T35066, Pick-up US Special Forces Accessories Set (Meng); T35067, Universal Modern Plastic Boxes Accessories Set** and **T35068, Modern Plastic Cans Accessories Set.**

Website: www.blackdog.cz

The Bodi

The latest figures from The Bodi are once again of Hungarian origin, which makes sense because they are a Hungarian company: **35018, Hungarian Heads, $13.30; 35049, Hungarian Tank Man, $16.30** and **35050, Hungarian Tank Man, $16.30.** Figures 35049 and 35050 are available as a set under **35051, Hungarian Tank Crew, $31.20.**

They also turned out a neat little accessory for the Trumpeter ASU-85: **35052, ASU-85 Mantlet Cover (Trumpeter), $10.10.**

Kriztian Bodi seems to be breathing the heady vapors of success quite deeply lately as he has even more figures on the horizon: **35054, German Motorcycle Courier #1; 35055, German Motorcycle Courier #2; 35053, Hungarian Motorized Artillery Officer; 35054, German motorcyclist #1,** and **35054, German motorcyclist #2.** We must admit that we like this fellow's work and you should check it out on his website.

Website: www.thebodi.hu

Amusing Hobby

This company seemed to come out of nowhere with their take on the multi-turreted Neubaufahrzeug (**35A003, Neubaufahrzeug, Krupp Norwegian Campaign, ¥5500**).

Any which way you slice it, they seem to have some original ideas up their sleeves. Future releases for them include **35A002, Panzerkampfwagen VK3002 (DB)** and **35A005, Panzerkampfwagen VII Lowe.** They both look like interesting topics and we will keep you posted.

Websites: www.amusinghobby.jp and www.hlj.com

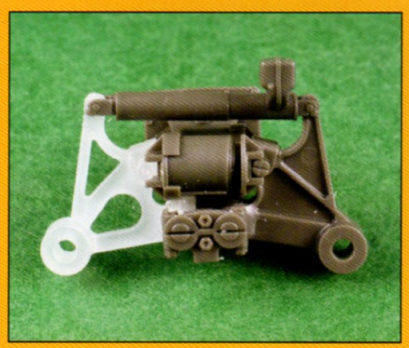
Bravo 6

Bravo 6 is sticking to what they do best with two new additions to their Vietnam War figure lineup: **B35047, U.S. Tunnel Rat" and 35039, USMC (11) Fire in the Hole! Tet '68.** Yes, we liked the look of these new figures, too. Yes, indeed.

Website: http://bravo6.diorama.ru/

Click2detail.com

The future of modeling is now here from this new company. These fellows manufacture parts on demand using 3D printing technology. This makes rendering almost any part possible with only the use of a computer-drafting file. So far, they offer a limited number of accessories for the armor modeler: **M4A3E8 Flame Cut Suspension Arm, $1.50; 105mm Sherman Howitzer Barrel (Tamiya), $8.93;**



8 inch Howitzer round, $7.80; 155mm Howitzer Round, $7.80; Sanding Sticks, $9.78; Tamiya to Tasca Spacer, $4.74; LVT Alligator Tracks, $38.99; Spacer Ring to Adapt Tamiya Turrets to Tasca Hulls, TBA and **M4E9 Suspension Spacer, TBA.**

Of course, this is just the beginning. The idea behind this project is that soon modelers will be able to order up their own custom parts at will just by having the proper computer drawings. Go to their website today to find out more.

Website: http://Click2detail.com/

Bronco

Bronco seems to be leaving the rest of the styrene pack behind. Their latest kits have been

on the mark when it comes to subject matter and the level of detail is unparalleled.

The first thing we want to talk about with Bronco is rather unique. They have actually gone out of their way to fix a minor error in that smashing new Chafee kit. It seems there is a bit of a

mistake on the turret roof. Anyway, if you bought the first run of the kit, it's possible for you to get the corrected part from Dragon USA (**www.dragonusaonline.com**) for only two bucks. That's right, $2.00!! Look for this item on their website: **35069SP, Revised M-24 Chaffee Turret, $2.00.** What's more, if you buy a currently manufactured kit, Bronco is already including the corrected part. How do you like them apples, ladies? Pretty cool.

Speaking of small details, they also put out a limber cover for the British 25 pounder: **AB3556, Canvas Cover For No.27 Limber, $4.95.** Hopefully it will fit the Dragon kit too since this wasn't included in that either.

Now lets take a look at the list of new kits. It's going to blow your mind. BOOM! First up is **CB35036, Hungarian 40/43M 'Zrinyi' II 105mm**

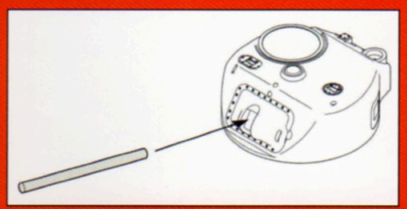
Assault Gun, TBA which has previously been done in resin but not styrene.

Some people have been waiting for a Flak 41 for quite a while and now it's here: **CB35067, German 88mm Flak 41 Anti-Aircraft Gun W/Crew, $54.95.** The crew looks to be the same figures that came with the Dragon 88 wearing the two-piece reversible winter uniforms. Last up and also surprising is that they are now dipping their toes into Russian waters with **CB35109, Russian Heavy Self-Propelled Gun SU-152 (KV-14) Late-Production, TBA.**

Website: www.bronco-model.com www.dragonusaonline.com

CMK Kits

...And now a few little bits from CMK Kits. CMK has been doing barrels lately: **B35088 M4A1 Sherman 75mm M3 Gun, $7.50;**



B35089, Hetzer 75mm Pak 39 L/48 Gun, $7.50 and **B35090, SU-122 Metal barrel 122mm M-30 gun (Tamiya), $7.50.** They also have one new 1:72 scale offering: **F72228, WWII German Panzer Crew Sitting (3 figures), $14.50.**

Website: www.cmkkits.com

Concord

Concord has just one new book out, but we thought you might want to know about it: **6535, The Waffen SS in Russia 1941-44, $18.95.** Like the title says, this volume concentrates on the great variety in SS uniforms, equipment and weapons from the Russian front. If you have a craving for Concord and can't find that special title on your local hobby shop shelf, try Dragon USA (**www.dragonusaonline.com**) as they are the distributor in the U.S.

Website: www.concord-publications.com

Dragon

Dragon has decide to pull a pre-emptive strike on Tamiya by releasing a slightly improved incarnation of their classic Ferdinand kit with **6495, Sd.Kfz.184 Ferdinand Kursk 1943, Premium Edition, $49.95.**

They also continue to do what they do best with more variations on some of their excellent base kits: **6568, Firefly 1c Welded Hull, $52.95; 6612, Sd.Kfz.167 StuG.IV Late Production, $57.95; 6627, M7 Priest Early Production, $57.95; 6739, Sd.Kfz. 10/4 für 2cm FlaK 30, $48.95** and **6451, Pz.Kpfw.I Ausf.A 4.Serie/ La.S., $42.95.**

As far as figure sets go, Dragon still sets the pace for plastic men with **6552, British Expeditionary Force, France 1940, $16.95** and **6693, DAK Panzer & Artillery Crew, Libya 1941, $14.95** being the newest we could spook out.

Cyber Hobby also has two new special Panzers: **CY6752, Pz.Kpfw.II Ausf. C w/Mine Roller DAK, $49.99** and **CY6763, Otto Carius Tiger I Mid, $64.99.** The Orange Box series continues to recycle some of their older kits art great prices: **9137, BRDM-2/3 (2 in 1) + Soviet Tank Crew (Orange), $29.95.**

Dragon has also shown resurgent interest in 1:72 scale armor lately with a bevy of new releases: **7290, Pz.Kpfw.III Ausf.M w/Wading Muffler, $19.95; 7439, Long Range Desert Group (LRDG) Patrol Car w/Lewis Gun, $19.95; 7444, Sd.Kfz.263 Funkspähwagen (8-Rad), $19.95** and **7494, Sd.Kfz.171 Panther D Early Production, $19.95.**

Websites: www.dragon-models.com and www.dragonusaonline.com

Dtoys

Before we get to the figures, we wanted to mention that Dtoys has put out a detail set for either the Tamiya or the Academy Hetzer: **DT35-051, 38(t) Hetzer Conversion Set, TBA.** This set includes photo-etch details and a turned barrel.

Now, on to those crispy, crunchy figures: **DT35-046, US Marine Sniper "Nam"; DT35-047, Vietnam War US Tanker Crew #1; DT35-048, US Army Ranger L.R.R.P "Nam"; DT35-049, Vietnam War US Tanker Crew #2; DT35-050, Panzer Tank Crew 1944-45** and **DT35-052, R.O.K Marine Decal & Tank Crew.** Dtoys is now available at HobbyLink Japan (**www.hlj.com**) under the title Division Miniatures.

Website: www.divisionmini.com

Echelon

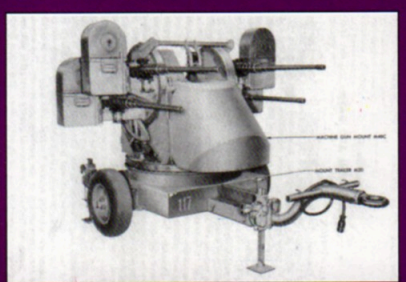
Echelon has gone crazy over ammo boxes. We weren't even aware that there were this many variations in stenciling: **D356131, WW2 .50 Cal M2 Ammunition Box Labels (Style 1), $5.50; D356132, WW2 .50 Cal M2 Ammunition Box Labels (Style 2), $5.50; D356133, WW2 .50 Cal M2 Ammunition Box Labels (Style 3 + 4), $5.50; 356134, WW2 .50 Cal M2 Ammunition Box Labels (Style 5), $5.50** and **D35613, WW2 .50 Cal M2 Ammunition Box Labels (Style 6, 7 + 8), $5.50.**

Also available is a nifty set of markings for your MiniArt or AFV Club Valentine: **M35146, Valentine Tank Series (AFV Club), $6.00.**

Website: http://pachome1.pacific.net.sg/~kriegsketten/

Easy 1

Easy 1 Productions is a vast repository of reference materials available in CD form. If you need a U.S. or British technical manual, especially for WWII, this is THE place to go. The latest list of CD releases looks like this: **T068, TM 9-705 M3 Scout Car; T069, TM 9-7218 M42; T070, TM 9-7402 M74; T071,**

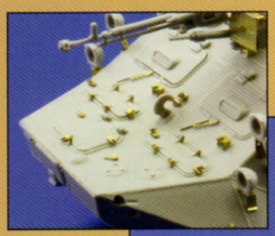


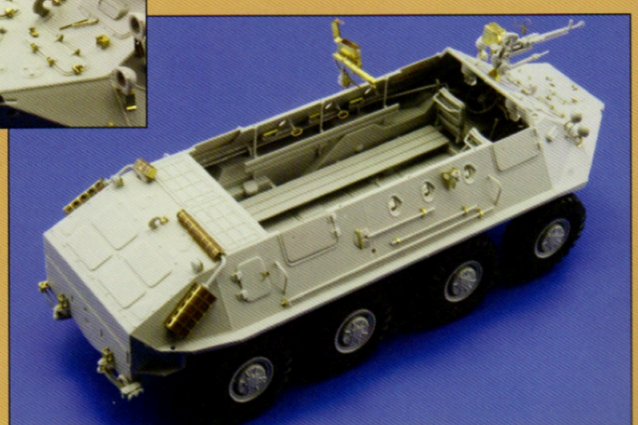
M55 Quad .50 and Trailer; T072, TM-E9-228 German Quad 20mm; T073, TM 9-807 Studebaker; T075, Ford G8T 1.5 Ton and **T076, TM 9-330 155mm M1917, M1918.** Due to our almost spasmodic excitement over the Tasca release, we have to mention that Easy 1 also has a CD for that one: **T042, TM-9-738.**

Website: www.easy1productions.com

Eduard

Eduard's output out 1:35 scale armor has picked up lately with special attention being paid to the new Academy M1151 Humvee: **36186, BTR-60P APC (Trumpeter); 36194, sWS with 20mm Flakvierling (Great Wall); 36202, M-1151 EAC Exterior (Academy); 36203, British Light Tank Mark VIB (Vulcan); 36209, M-1151 EAC Interior (Academy); 36211, M-1151 EAC Underbody Protection FRAG2 (Academy)** and **36212, M-1151 EAC OGPK Overhead Cover (Academy).**





We also spotted some new quick mask sets to make short work of your road wheel painting: **XT183, Sd.Kfz.10/5 Armoured Cab** and **XT184, Pz. Kpfw.II Bison II 150mm s. IG33.**

Website: www.eduard.com

Etokin Model

Etokin is a relatively obscure company that we found out about while cruising the HobbyLink Japan website. They make three resin conversion kits for the Tamiya Type 74. The prices are steep but the detail level and originality may make this a sure get for some

modelers. The three kits are: **ETK002, JGSDF Type 78 Tank Recovery Vehicle, ¥18,095; ETK003, JGSDF Type 73 Armored Vehicle Conversion Kit, ¥21,000** and **ETK004, JGSDF Type 75 155mm Howitzer Motor Carriage, ¥23,000.**

Website: www.hlj.com

Fine Molds

Leave it to Fine Molds to pull something really special out of the hat.

Two new versions of the Type 4 are now available from them: **FM32, IJN Type 4 Medium Tank Chi-To (Experimental Model), $84.95** and **FM33, IJN Type 4 Medium Tank Chi-To (Production Model), $84.95.** The type 4 was a rather advanced Japanese tank slated to replace the Type 97 but in the end only two were completed and they never saw combat.

They have also gone four-wheeling with two versions of the JGSDF light tactical truck: **FM34, JGSDF Type 73 Small Truck w/Canvas Top, $44.95** and **FM35, JGSDF Type 73 Small Truck w/MG, $44.95.** As usual, we are always interested in what Fine Molds does and will provide a closer look as soon as we can.

Like AFV Club and Tamiya, Fine Molds has a habit of selling a few small items to improve their base kits. Thus, we have this small list for the above new releases: **MG72, Gun Barrel for Type 4 Medium Tank (Lathe Turned Aluminum), $24.95; MG73, Photo-Etched Parts for Type 73 Small Truck, $24.95** and **MG74, Photo-Etched Brass Parts for Type 4 Medium Tank, $24.95.** If you are looking to pick up Fine Molds products, try out HobbyLink Japan (www.hlj.com) or Dragon USA (www.dragonusaonline.com).

Website: www.finemolds.co.jp

ET Model

ET Model is back in the news with a wide variety of new releases.

We got word of these new resin barriers through illicit sources: **EA35-063, Modern NATO Bastion Cage Barrier Set Type. 1; EA35-064, Modern NATO Bastion Cage Barrier Set Type. 2** and **EA35-065, Modern NATO Bastion Cage Barrier Set Type. 3.**

The rest of the new stuff was pretty easy to find on their website. It's a good variety of photo-etch with something new for everyone: **EA35-069, WWII German Pz.Kpfw.IV Ausf.J Latest Production Fenders; E35-066, Modern US Army M1A1 AIM MBT (Dragon); E35-089, WWII German Pz.Kpfw.IV Ausf.J Basic (Dragon); E35-091, WWII German Pz.Kpfw.IV Ausf.J Schurzen Late Version (Dragon); E35-103, Russian ASU-85 Airborne Self-Propelled gun Mod.1956 Basic (Trumpeter); E35-119, Modern German Boxer MRAV (Hobby Boss); E35-120, Russian BTR-60P APC (Trumpeter); E35-121, U.S. Water Buffalo LVT-4 Early Version; E35-128, WWII German Jagdpanzer 38(t) Hetzer Mid Production (Tamiya); S35-006 ,Defender 110 Hardtop Value Package (Hobby Boss)** and **S35-007, WWII Soviet BT-7 (Mod.1935) Value Package (Tamiya).** The Barrel Store (www.thebarrelstore.com) is still the best bet for ET Model in North America.

Website: www.etmodeller.com

Evolution

We were able to pick up a few examples from Evolution at a recent show. The quality was excellent. There are just two new sets for this update: **35061, US Marines Humvee Crew in Fight and 35062, Waffen SS Grenadiers LAH Set 5.**

Website: www.evolution-miniatures.com

Formations

The latest word from Formations is a mix of the old and the new. As always this is a great starting point for adding some extra bling to your U.S. WWII armor. The new stuff is: **F007, Square Air Cleaners for Radial Engine Shermans, $7.00; F116, Canadian Style Sherman VVSS Suspension Conversion, $15.00** and **F126, M3 Lee Turret (Academy), $15.00.**

Thankfully, the new owner is making an effort to re-release items that we are all missing: **F002, Early Sherman One Piece Cast Transmission, $11.00; F024, Early Sherman Three Piece Transmission Cover, $11.00; F032, Early Sherman 3 Piece Transmission Cover w/o Bullet Splash, $11.00; F046, Sherman Siren Assortment (4 Styles), $6.00; F053, Late Single Piece Cast Double Brake Sherman Transmission, $11.00 and F127, Square air Cleaners** and **Fish Tail Exhaust for M3 Lee/Grant, $10.00.**

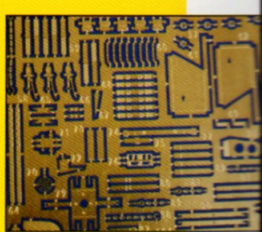
Website: www.formationsmodels.com

Griffon Model

Dragon USA recently sent us a few samples of the new Griffon items.

It was a wake up call to see just how much stuff was included in their "Royal" sets since we hadn't had a close look in awhile.

The new sets are tailor-made for Dragon kits, namely the Panzer IV Ausf.J Mid and the Jagdpanzer IV Early with Zimmerit. As usual, you can choose just how crazy you want to get: **SBPL35007, WWII German Pz.Kpfw.IV Ausf.J Middle Production (Royal Edition) (Dragon), $89.95; MSBPL35014, WWII German Jagdpanzer IV L/70(V) Early Production With Zimmerit Coating (Royal Edition) (Dragon), $76.95; BPL35012, WWII German Pz.Kpfw.IV Ausf. J Middle Production (Premium Edition) (Dragon), $68.95; BPL35019, WWII German Jagdpanzer IV L/70(V) Early Production With Zimmerit Coating (Premium Edition) (Dragon), $54.95; L35034, WWII German Pz.Kpfw.IV Ausf.J Middle Production, (Dragon), $36.95; L35041, WWII German Jagdpanzer IV L/70(V) Early Production with Zimmerit Coating, (Dragon), $23.95** and **L35A100, Universal Mounting Brackets & Clamps for WWII German Pz.Kpfw.IV Ausf.J All Production Series On-Vehicle Equipment (Dragon), $17.50.**



Websites: www.griffonmodel.com and www.dragonusaonline.com

Hauler

We have just two new releases from Hauler to present but both of them should prove very useful as the kits they are for are very nice indeed: **HLU35052, T17E2 AA Staghound (Bronco), €10.44** and **LU35053, GAZ-AAA (Miniart), €12.24**. Both of these accessory sets appear to have a selection of useful details at a price that doesn't break the bank.

Website: www.hauler.cz

Hornet

Bring on the Hornet heads. Let's keep this short and sweet. They have two new sets: **HH33, Heads with Ultra Short Haircuts** and **HRH07, Heads with WW2 Soviet Officer's Caps**. Hornet heads are the best.

Website: www.greenwichgateway.com/hornetandwolf/

ICM

Figure sets and soft skin vehicles are where ICM has been putting most of their energy lately. We've been impressed by the considerable improvement in their molding lately. Here are some new items you may want to check out: **35621, Soviet Military Servicewomen (1939-1942); 35475, Kapitän Saloon WWII German Staff Car; 35467, Henschel 33 D1 Kfz.72, WWII German Radio Communication Truck; 35472, Admiral Saloon, WWII German Staff Car** and **35611, WWII German Staff Personnel**. Our favorite was the Soviet Military Servicewomen. It comes complete with a laundry line of undergarments.

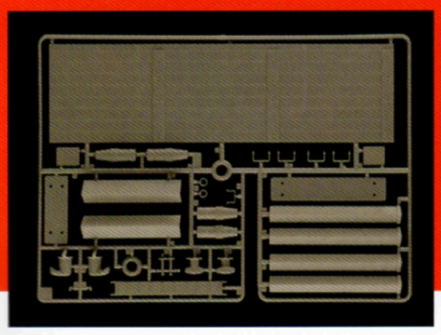
Websites: www.icm.com.ua and www.squadron.com

Italeri

Italeri has decided to bring their Stug. IV kit into the 21st century with upgraded tooling, a metal barrel and some photo-etch detail: **6491, 1:35 Sd.Kfz.167 Sturmgeschutz IV, $60.00.**

In other news, they have also put out some accessory sets that should go nicely with their 1:35 scale nautical kits such as the PT Boat and the E-boat: **5612, Long Dock, $62.00 and 5615, Dock with Stairs, $42.00.**

Website: www.modelrec.com



Hobby Fan

Hobby Fan announced four new figure sets to complement the latest from the AFV Club line: **710, WWII U.S. Army Gun Crew (II) 1944 France, (4 Figures); 711, Sd.Kfz.231 Panzer Funkwagen Crew (2 Figures); 712, LVT-4 U.S. Marines Gunner Pacific w/Accessories (2 Figures)** and **713, U.S. Marines Infantry Pacific w/Base (2 Figures)**.

The figures are nice but what really grabbed our attention were these two nifty diorama bases: **V-044, U.S. V.N. War Machine Gun Bunker Base** and **V-049, U.S. V.N. War Hilltop Base (IV)**. They look like a great starting point for some of the classic Hobby Fan Vietnam figures or perhaps some from the Bravo 6 line.

Website: www.merit-intl.com

K59

If you want to give your Dragon RSO PaK 40 a bit more zazz, check out K59's new upgrade set: **C-019, 7.5cm Pak40 upgrade for Dragon 7.5cm Pak40/4 RSO.** This set is not for the faint of heart. It is the most accurate update out there and contains eight resin parts, photo-etch details and an aluminum barrel.

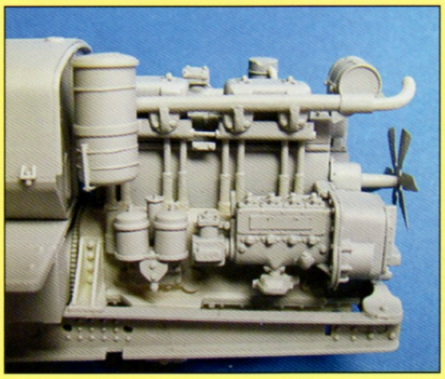
Website:www.k59production.blogspot.com

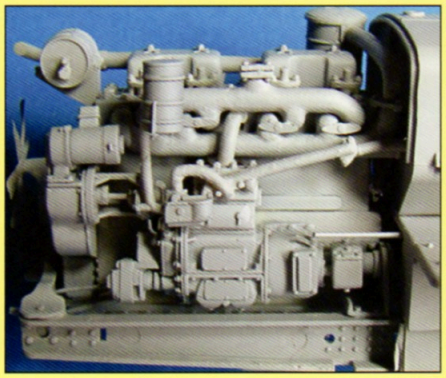
LZ Models

Libor from LZ Models recently treated us to two samples for the Trumpeter kit: **35406, S-65 Stalinetz Engine Upgrade Set (Trumpeter), €28.00** and **35407, S-65 Stalinetz Radiator Cover with Correct Letters, €3.50**. The engine upgrade is fabulous and is composed of 40 resin and 27 photo etch parts. The included parts can be used for either the Russian or the German version.

There are also two versions of the U.S. 75mm recoilless rifle on the website: **35505, US Army 75mm Recoilless Rifle T21 with T47 Pedestal, €18.00** and **34506, US Army 75mm Recoilless Rifle T21 with Tripod, €18.00.**

Website: www.lzmodels.wbs.cz





Mantis

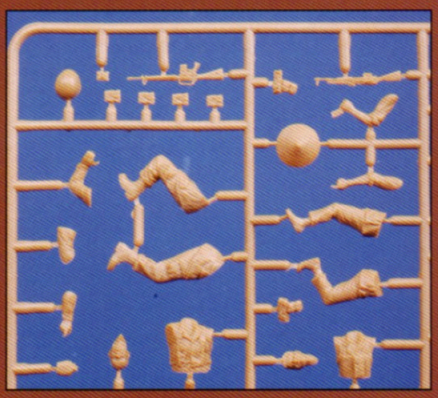
We love the crisp molding that embodies the work of Mantis Miniatures and will provide you with updates whenever we can. Their latest theme is a nice change: **35040, German Cossack Officer, WW2, €12.00** and **35041, German Cossack, WW2, €12.00** are the individual figures and **35042, German Cossacks, WW2, €22.00** is the set. Their latest set of critters is **35043, Animals Set 11, €12.00**. It's a nice selection of different breeds of 1:35 scale dogs.

Website: www.mantisminiatures.pl

Master Box

Master Box has three new sets out: **3562, WWII Farmer's Cart, Western Europe, $10.95; 3570, "Passengers", WWII German Servicemen, $14.95 and 35105, "Charlie on the left!!!" Crew of U.S. Jeep (Three)** and **Two Viet Cong Fighters, $14.95.** Our samples from Dragon USA arrived recently. Our hands-down favorite was the "Charlie on the Left." Look for more Vietnam figures from Master Box in the near future. It's about time someone got around to doing some current figures from that war in plastic (insert recording of audience applause here).

Websites: www.mbltd.info and www.dragonusaonline.com



Mig Productions

Pigments and filters! Get your pigments and filters here! New flavors now available! The latest pigments are: **P051, Faded Bronze Green, $6.50** and **P052, Bright Iron, $6.50**. As for filters, try these: **P420, Green for Khaki Green, $7.50; P421, Neutral Grey for Panzer Grey, $7.50** and **P422, Brown Dirt for White Camo, $7.50.**

Websites: http://migproductions-usa.com and http://migproductions.com/

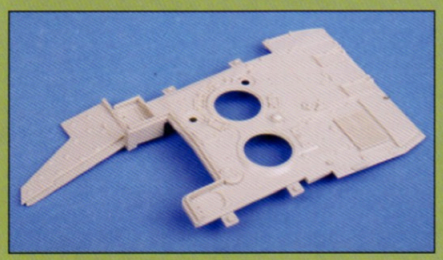
Masterpiece Models

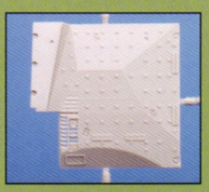
The MMiR Short Takes 56 Most Original Model Award goes to Masterpiece Models for their mushroom cloud layin' 1:12 scale atomic bomb: **MMPT009, Fat Man, $249.95.** Yes, it's a humongous price tag but put this sucker on your desk as a paperweight and no one will ever question your authority again! It's nearly 11 inches long and includes the trailer.

Website: http://masterpiecemodels.com

Meng Model

Meng Models has been making a lot of waves lately with some astonishing subject matter. Stevens International recently blessed us with a sample of the Merkava IIID we mentioned last issue so here are a few snaps of the highlights. Look for a full review of the Merkava and the Mine Raumer in upcoming issues.





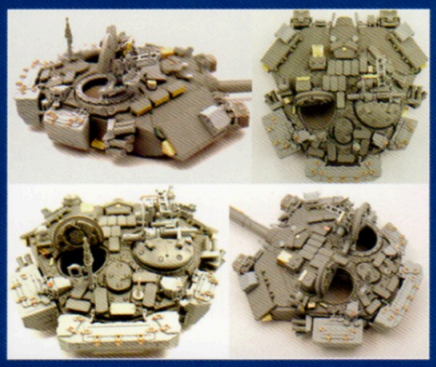
In more recent news, there are two new items on the horizon: **HS-001, Middle Easterners in the Street, $16.95** and **TS-002, British Heavy Assault Tank A39 Tortoise, TBA.** We are awaiting both with bated breath.

Websites: ww.meng-model.com and www.stevenshobby.com

Mini Arm

Mini Arm is a company seemingly bent on perfection. It didn't take them long to jump on the new Zvezda T-90 kit to provide some really nice updates for: **B35021, T-90 Road Wheels; B35034, T-90 Workable Track Set, Drive Sprockets And Idlers Wheels; B35065, Modern Russian AFV ERA Block "Contact-5" for T-90; B35066, T-90A M2009, Welded Turret with PE; B35067, T-90 Correction Set for Upper Hull, with PE; B35068, T-90 Workable Track Set; B35069, T-90 Workable Track Set with Rubber Boots; B35070, Drive Sprockets and Idler Wheels for T-72BM and T-90** and **B35071, Kord 12.7mm Heavy Machine Gun**. The track sets with the rubber block attached would be especially useful for anyone wanting to model one of the May Day parade vehicles, as they are so equipped and have a stunning camouflage scheme.

Website: http://miniarm.com



Miniman Factory

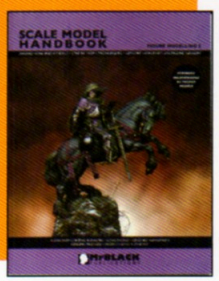
Since its inception a few short years ago, Miniman Factory has treated us all to some really mind-blowing resin truck kits. Lately, we have seen them expand beyond 1:35 scale. Their latest full fit is a 1:25 scale monster: **MMF 25001, Kraz-255B Russian 6x6 Heavy Truck, €299.00**. There are still people here at the office weeping quietly over this one. Now all we need is someone with the guts to build it...

Website: www.minimanfactory.com

Mr. Black Publications

Our pal from Greece, Stelios Demiras, has wasted no time in following up on the figure modeling book we reviewed in MMiR 56 with **Figure Modelling 2, €14.95**. Like the first edition, some of the nicest historical figures out there, particularly from the redoubtable Pegaso Miniatures, are used to illustrate the most up-to-date figure construction and painting techniques. The best way to order is direct from the website.

Website: www.mr-blackpublications.com



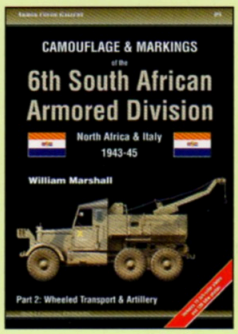
MK35

Good things come in threes, or so it seems with MK35. They have two new civilian figures and one new diorama accessory: **F224, Civilian Holding A Bag In His Hand And His Jacket On His Arm, €10.80; F225, The Smoker Marcel, €10.80** and **A100, Haystack, €11.00**. As usual, we are going to take a moment to pump their diorama buildings. We suggest you surf by their website and see for yourself.

Website: www.mk35.com

Model Centrum

Model Centrum is back in the news with two new titles. For German WWII fans, they have put out an excellent walk around with **Armor Photo Gallery #22, Pz.Kpfw.IV Ausf.G, €22.00**.



Model Centrum has done really well with the British/Commonwealth theme so there's no reason to quit now. The latest along those lines is **ACG #9, Camouflage & Markings of the 6th South African Armored Division 1943-45 Part 2: Wheeled Transport & Artillery, €19.00**. Look for more in-depth profiles of both titles in upcoming Book Reviews.

Websites: www.modelbooks.republika.pl and **www.squadron.com**

Archer
DRY TRANSFERS, DECALS and RESIN DETAILS
SERVING MODEL BUILDERS SINCE 1989
SAME DAY SHIPPING. $2 POSTAGE ON ORDERS UNDER $50, FREE FOR ORDERS OVER $50
Catalog, info & shop
archertransfers.com

North Star Models

North Star models is a resin accessory company that mainly does aircraft details, but we did spot some stuff on their website that was interesting. They had one really cool 1:35 scale full kit: **NS35006, ARV-AL XM-1219, $99.00**. The acronym in the title stands for Armed Robotic Vehicle-Assault-Light. This is six-wheeled armed robot that was designed by Lockheed Martin/Boeing. The latest news is that the project was cancelled in summer 2011 but it's still a very interesting glimpse into the future of warfare.

They also have some very useful radio sets: **NS35003, German WW2 Tank Radio Set Fu 5, $10.00; NS35004, Russian WW2 Tank Radio 71 TK 3, $10.00** and **NS35005, German WW2 Tank Radio Set Fu 2, $7.50.**

Website: http://northstarmodels.com/

Panzer Shop

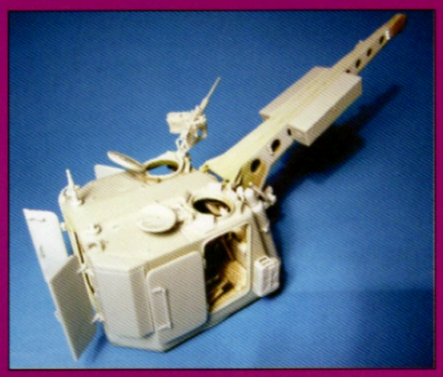
Our update for Panzer Shop concerns a subline that we didn't have room for last time but we didn't want to leave you out in the cold as this stuff looks really interesting. It's all under the MK Models heading and they are all full kits. Here goes: **MKF3035, Lift Truck Hyster YT-40, $70.00; MKF3036, BTR-40A Conversion set (Trumpeter), $60.00; MK35043, Tatra 111C army Fuel Truck, $190.00; MK35044, CV.9 Fuel Trailer, $170.00; MK35045, Tatra 111C Civilian Fuel Truck, $190.00; MK35046, Tatra 111C and CV.9, $330.00** and **MKF3037, IVECO LMV MedEvac, $155.00**. Those are some hefty price tags but where else are you going to find these weird subjects?

Website: www.panzer-shop.cz

Perfect Scale

Perfect Scale expands on a theme that knocked our socks off in MMiR 56. If you happen to have an old Italeri or Revell M110 or M107 on the shelf and don't want to buy the whole M578 kit, the conversion is now available as: **35091, M578 ARV Turret and Blade, €65.50.**

More good news is in store for Bundeswehr fans. Wanna give that old Revell Marder a makeover? Try **35093, Marder 1A5A1 with Barracuda, €84.95**. This is a simple yet complete face lift that really only uses the lower hull and suspension of the base kit and you end up with a very current version of the Marder APC. If you want to junk it up even further, there's also **35094, Marder 1A5 Afghanistan Accessories, €11.95**. Cha-ching!

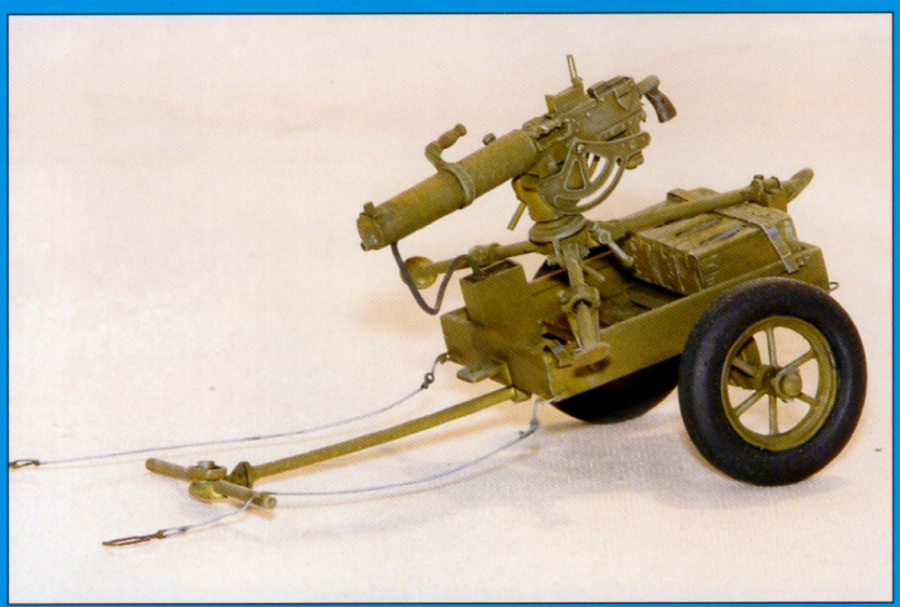


Website: www.perfect-scale.com

Plus Models

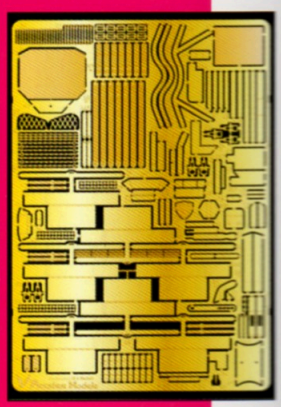
Although they did not announce any mind-blowing full kits in time for this edition of Short Takes, there is still this respectable list of little goodies to look out for from Plus Models: **388, German Field Optical Equipment, $22.00; 400, U.S. handcart M3A1 with Browning 0.3, $17.40; 415, Burnt-out cans - US WWII, $9.60; 416, Burnt-out cans - GB WWII, $9.60; 417, Burnt-out cans - Germany WWII, $9.60** and **418, U.S. Boxes Ration C, $9.00.** The burnt out jerry cans and C-rat boxes are bound to come in handy somewhere.

Website: www.plusmodel.cz



Passion Models

Passion Models has actually been around for a while but we haven't really talked about them before because their stuff was hard to get. That appears to have changed as they now have their very own website to call home. We spotted a nice detail set right off the bat that a lot of people will find useful: **P35-081, M51 Super Sherman Etching Set (Tamiya), $15.46.**



These guys make decals too. **P35D-004, Decal Set German Military Equipment Vol.2, $10.30** is their latest.

This is just the tip of the iceberg as the website also has listing for other Japanese lines such as Decal Star, Kamizukuri, and Swash design.

Website: www.passionmodels.jp

Pro Art

The one new release that we spotted from Pro Art since the briefing in MMiR 55 is tailor-made to flesh out their awesome War Pig LMTV conversion: **PAU-35050, Equipment Set for Special Forces LMTV (War Pig), €28.00.** If you are doing anything with a modern U.S. theme, don't forget to stop by their website to shop for some primo stowage.

Website: www.proartmodels.be

Propaganda Kompany

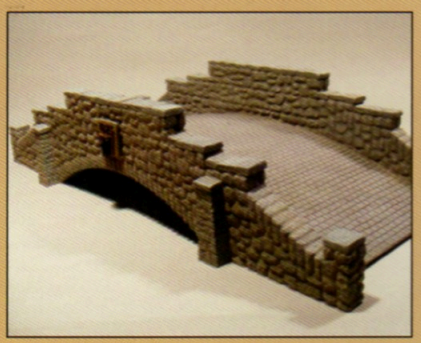
A few years back we had a real thing for Propaganda Kompany. Their little 1:35 scale motorcycles captivated us. Just by chance we happened to stop by their website lately and spotted something completely different from them: **480568, T55 Russian MBT, €55.00.** Quarter scale fans may want to take a closer look at this one.

Website: www.propaganda-kompany.com

Reality in Scale

Reality in Scale continues to run the gamut when it comes to providing some of the finest diorama accessories available. We don't have a long list this time around, but Reality in Scale still covers all of the bases: **35184, Cardboard Boxes, €10.95; 35185, Wicker Basket Set, €9.95; 35186, Large Fachwerk House with Gate, €55.00; 35187, Advertising Kiosk, €13.95; 35188, Large Stone Bridge, €39.95; 35189, German WWII Propaganda Magazines "Signal," €4.50; 35190, Maps WWII Era. €5.50; 35191, Small North African House, €22.95; 35192, Column with Steps Figure Base, €14.95, SCAT04, Pine Forest Scatter, €4.95, SCAT05, General Green Scatter, €4.95** and **BUSH01, Natural Bushes, €9.95.**

Website: www.realityinscale.com



Sabinga Martin

Sabinga Martin has long been one of our favorites when it comes to reference on Israeli subjects. Their latest title is **"Lioness and Lion of the Line" Volume 2, $35.00.** This book is on M50 and M51 tanks in Israeli Service.

Sabinga Martin also has a new resin figure: **SIM-4, Israeli Tanker #1, $15.00** and two resin accessories for Israeli Shermans: **SIM-9, Early IDF Sherman Storage Boxes Part 1, $14.00** and **SIM-10, Early IDF Sherman Storage Boxes Part 2, $14.00.**

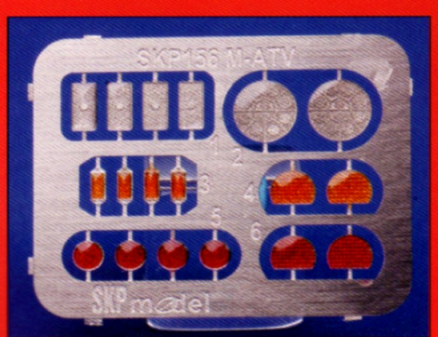
Website: www.sabingamartin.com

SIM-4 Israeli Tanker #1
1:35 Scale

SKP

The most eye-grabbing item we spotter on the SKP website lately was **150, Zetor 25A Tractor in Army Service, €39.50.** This was a Czech-manufactured agricultural tractor made in considerable numbers that was used by the military as an aircraft tug. The kit itself is resin with photo-etch details and looks pretty nice. They also made a figure for it to complete the picture: **126, Tractor Driver, €6.40.**

Other useful accessories from SKP look like this: **151, Wheels for Zil-157, €9.49; 137, Lenses and Taillights for M2 Bradley, €6.40; 153, Lenses and Tail Lights for Leopard, €6.40; 154, Lenses and Taillights for M1070, €7.99** and **156, Lenses and Taillights for M-ATV, €6.40.**



Website: www.skpmodel.eu

Squadron/Signal

Our good buddy David Doyle has been keeping us updated on some of the nefarious activities going on over at Squadron. Apparently they are now releasing books in both hard cover and soft cover. Here are two new titles due out soon: **SS12050, German Armored Cars in Action (Soft Cover);**

SS52050, German Armored Cars in Action (Hard Cover); SS27027, Jagdpanzer 38 Hetzer Walk Around (Soft Cover) and **SS67027, Jagdpanzer 38 Hetzer Walk Around (Hard Cover).** David sent us a copy of the German Armored Cars in Action book and we'll take a closer look in the next MMiR.

Website: www.squadron.com

Stormtroopers

It's been awhile since we had anything to say about these guys, but they just released a crackin' large-scale figure that caught our attention: **ST120/22, Brit Tanker, ETO 44/45, £35.00**. Peter Morton sculpted it and not many people do British tanker like old Pete.

Website: www.stormtrooperminiatures.co.uk

Tamiya

The Big T has announced two new items in 1:35 scale. The first one is all new, **35325, Sd.Kfz.184 Elefant**. This announcement has a lot of people shouting, "What gives?" because Dragon already has a fine rendition of this vehicle. No doubt the Tamiya version will take ease of assembly one step further. The second announcement is for a re-pop of their redoubtable Steyr kit with some figures: **25149, German Steyr 1500A w/7 Figures - Kommandeurwagen HQ Staff Set**. The figures appear to be a mix of Tamiya and a recent ICM release.

In 1:48 scale news, they will have a palm-sized version of their Matilda out as **32572, British Infantry Tank Matilda** very soon.

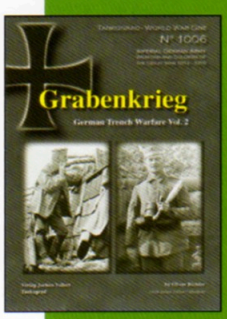
Website: www.tamiyausa.com

Tankograd

It's raining new titles from our favorite German publishing house! Their most recent big bad hard cover is **Kübelwagen on all Frontlines, €39.00**. This is a 256-page super-book on the Kubel. We're looking forward to seeing this title. Other WWII news includes a reprint of their Stug III title: **4007, Sturmgeschütz III in Combat, €14.95**.

These guys are still giving WWI some righteous treatment too: **World War One Special 1005, Grabenkrieg German Trench Warfare Vol. 1, €25.00** and **World War One Special 1006, Grabenkrieg German Trench Warfare Vol. 2, €25.00** are two to add to the wish list.

All of this good news does not mean that Tankograd has abandoned the modern enthusiast. Here is a mixed bag for that: **5036, ATF Dingo 1 - Protected Vehicle, €14.95; 7025, 10 Brygada Kawalerii Pancernej: Vehicles of the Modern Polish Army's 10th Armoured Cavalry Brigade, €14.95; 8006, TAM - Tanque Argentino Mediano, €14.95; 9018, British Nuclear Artillery, €14.95** and **Militärfahrzeug 2-2012, €8.95**.



Website: www.tankograd.com

Tank from Russia

Although we didn't see any new figures from Tank, they have pulled out all the stops when it comes to resin accessories. This is especially true with the T-34, which they have gone after like a dog on a steak.

Let's start with an eye-bleeding list of T-34 stuff: **A-291, Turret T-34-76-STZ 1942 Welded, Simplified, Late Version (Early Type); A-292, Turret T-34-76-STZ 1942 Welded, Simplified, Late Version (Main Type); A-293, Turret T-34-76-STZ 1942 Welded, Simplified, Late Version (Final Type); A-294, Body T-34/76 STZ 1942 (Late Version); A-295, Frontal Plate T-34/76 1941 (Early Version); A-296, Shielded Front Armor Plate T-34/76 STZ (Early Version); A-297, Shielded Front Armor Plate T-34/76 STZ Factory 112 (Early Version); A-298, Shielded Front Armor Plate T-34/76 STZ (Main Version); A-299, Shielded Front Armor Plate T-34/76 STZ (Main Version -Type II); A-300, Shielded Front Armor Plate T-34/76 STZ (Late Version); A-301, Shielded Front Armor Plate T-34/76 STZ (Late Version -Type II); A-302, Shielded Front Armor Plate T-34/76 STZ Factory 183, Nizgniy Tagil (Main Version -1942-43); A-305, Reinforced Turret T-34/76, 112 Factory "Krasnoe Sormovo" 1941-42 (Type I); A-306, Reinforced Turret T-34/76, 112 Factory "Krasnoe Sormovo" 1941-42 (Type II); A-307, Reinforced Turret T-34/76, 112 Factory "Krasnoe Sormovo" 1941-42 (Type III)** and **A-308, Reinforced Turret T-34/76, 112 Factory "Krasnoe Sormovo & STZ" 1941-42 (Without Observation Units)**.

Tank also has some nice WWII German accessories that are bound to come in handy: **A-258, Ammunition for a German Motorcycle; A-259, Leather Bags for a German Motorcycle; A-260, Canteen (Essenholer) 18L (Afrika Korp); A-261, Canteen (Essenholer) 10L (Afrika Korp)** and **A-262, Canteen (Essenholer) 6L (Afrika Korp)**.

Website: www.tank-model.ru

Tank Workshop

We ran into Jay Galbierz at a recent AMPS convention in Auburn, Indiana. He was very polite despite being accosted by an inebriated Ampersand staff member who shall remain anonymous.

Here are some replacement wheels for that great new AFV Club armored car: **TWS1046, Sd.Kfz. 231 Wheels (AFV Club), $12.00.**

Tank Workshop is still making strides in 1:48 scale, something everyone can appreciate. Everyone loves a nice British LRDG truck and now they have two complete kits in 1:48 scale: **TWS48300, Chevrolet WB 30CWT LRDG, $48.00** and **TWS48301, Chevrolet WB 30CWT LRDG Heavy Weapon, $48.00**. The second version has all the guns on it, but you already guessed that from the title, didn't you?

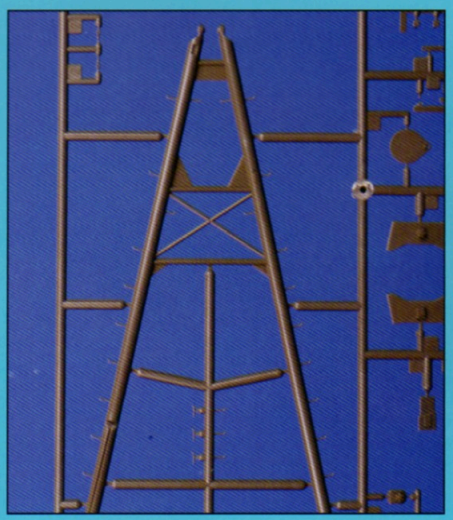
That's not the end of it. People who like their Shermans just a little bit smaller will like these new accessories: **TWS48005A, 1:48 Scale M4A4 Lower Hull, $20.00; TWS48005B, 1:48 Scale M4A4 Upper Hull, $18.00; TWS48303, Sherman Firefly Turret, $17.00; TWS48206, Israeli Diesel Eng Deck Conversion (Early Style), $6.50** and **TWS48304, Commonwealth Bomb Throwers, $5.00.**

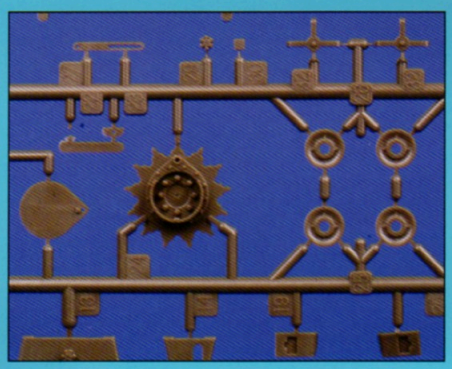
Website: www.tankworkshop.com

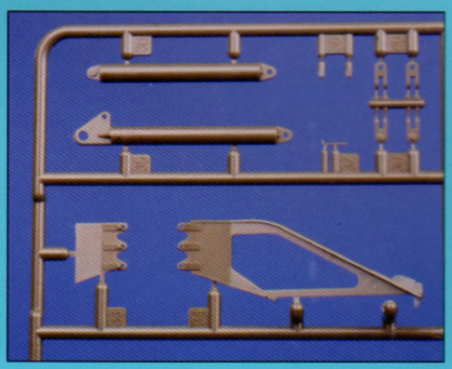
Tasca

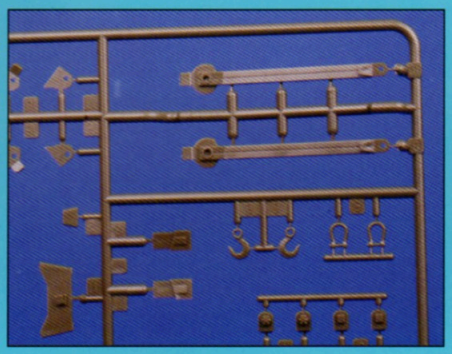
We just got a copy of **the new M32 kit (35-026)** and just had to share the joy. Here are a couple of close-ups of this beauty. The kit appears to be very complete and includes parts for the fighting compartment floor and winch as well as full rigging! Yeah, baby!

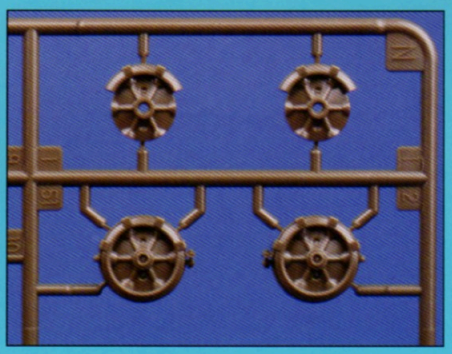
Website: www.tasca-modellismo.com











Trumpeter

For once the list from Trumpeter is short enough not to take up the rest of the magazine without considerable editing. The latest releases are expansions on already successful themes, but that doesn't make them any less tempting. For instance, **1563, Italian B1 Centauro Tank Destroyer Early Version (1st Series) with ROMOR, $51.95** is an interesting variant of an already pretty jazzy armored car due to its add-on armor package.

If you like small-scale firearms they have two new variants on their M16 kit: **1909, 1:3 AR15/M16/M4 Family-M4A1/M203 Machine Gun, $23.95** and **1910, 1:3 AR15/M16/M4 Family M4 RIS Machine Gun, $23.95.**

Finally, we got a report on one 1:72 scale release: **7101, British Warrior Tracked Mechanized Combat Vehicle, $21.95**. If you are into 1:72 scale, Trumpeter is a good one to check out for their modern armor line, as it is very extensive.

Website: www.trumpeter-china.com

UMM-USA

Who? No, it's not umm… It's you-em-em, as in Unique Master Models. These fellas have a great website that is just chock full of amazing tools and accessories for the model-afflicted individual in your life (or you—take your pick).

These are the guys that represent that diabolical line of micro-fine JLC saw blades and handles. You may have also run into the owner, John Vojtech, at a hobby event where he vends all of the tools that we are about to blather on about.

Although we have purchased from Mr. Vojtech for years, we visited the website for the first time only recently, where we were quickly separated from a large chunk of cash. The layout of the site is quite pleasant and easy to use. The service was very fast, with our order delivered by Priority Mail. Although there are MANY more items than those listed below, we wanted to give you our thoughts on what we acquired during that visit.

UMM-USA, represents the products of several different companies, as well as their own line. In no particular order, here's what we got:

First up is Alpha CSF. They make a range of sanding products, among which are several types of thin sanding sticks. Each of the sticks has a unique hook on the end to assist in getting into those tight little spots. The complete list is: **SF0400, Custom Sanding Files 400 Grit, $3.99; SF0600, Custom Sanding Files 600 Grit, $3.99; SF0800, Custom Sanding Files 800 Grit, $3.99; SF1000, Custom Sanding Files 1000 Grit, $3.99** and **SF1500, Custom Sanding Files 1500 Grit, $3.99**. There are nine sticks to a package.

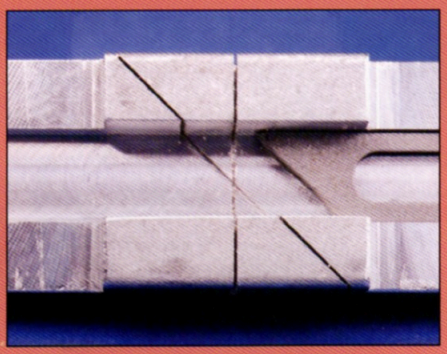
Alpha also makes a very clever line of "sanding needles." These are small, molded and tapered sticks formed from abrasive material. They come in three different grits, which are color-coded: **SN0150, Sanding Needles 150 Grit Coarse-Grey, $5.99; SN0240, Sanding Needles 240 Grit Medium-Blue, $5.99** and **SN0320, Sanding Needles 320 Grit Fine-White, $5.50**. Each package contains six sticks.

Next up is 3D Detail Tools and this is where it starts to get really serious. 3D Detail Tools has truly invented the proverbial better mousetrap with their exciting line of punch and die sets. The one we snagged is **MN031, Hexagonal Punch & Die Set, $42.99**. What is particularly nifty about this tool is that the punches are registered in the die by their

shafts, rather than the punch surface. This is vital for a hex-head set, as the hex shape will wear away quite quickly if the shape is allowed to move within the die. The flat side of the punch shaft, which matches the interior of the die body, accomplishes this registration.

Another great feature is that the material, once punched through, drops into a slot in the die base, rather than flying around your workbench. You also really can't beat that price!

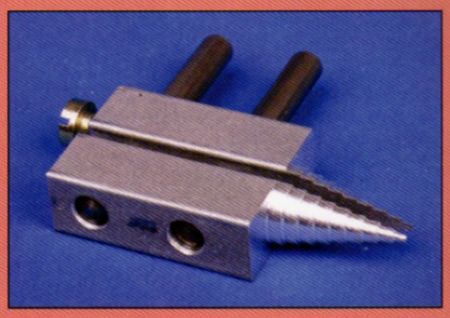
We have been waiting for this next item for some time. **MN034, Micro Mitre Box I. (45° 90°) - for JLC Saw, $19.50** now allows Joe Modeler to make precision and repetitive cuts using the JLC micro saws. The "box" also includes an adjustable stop with two master positions.



Although we purchased MN034, it is now also available with one additional cutting angle as **MN036, Micro Mitre Box II. (45° 90° 60°) - for JLC Saw, $21.50.**

If you have a rotary tool that doesn't comfortably fit your teeny drill bits, you'll get a kick out of **MN032, Mini Micro Chuck - Rotary Tools, $9.76**. For example, we matched this to our jewelers' drill press in order to use the range of smaller bits. However, its uses are vast, as it will fit just about any tool out there.

MN033, AWB Adjustable Wire Bender, $12.00, caught out eye as a value-priced bending tool for circular or oval shapes. It's neat how it adjusts and its small size is very convenient. We noticed that one way they keep the price down is the use of a simple slot-headed screw for adjustments, rather than a more expensive knurled knob. This is only one of several bending tools from 3D Detail Tools.



As mentioned there is a substantial line of UMM-USA products in the mix. One of our favorites is their line of "flat lead wires," or more accurately put: lead strips. This is a terrific idea! We all know how difficult it can be to consistently cut even a single piece of lead foil. These little packages provide dozens of scale feet of accurate material for whatever your modeling imagination can conjure up. Think webbing, netting—you name it. Here is the size range so far: **FLW102, Flat Lead Wires 1.0 X 0.2mm, $2.95; FLW103, Flat Lead Wires 1.0 X 0.3mm, $2.95; FLW104, Flat Lead Wires 1.0 X 0.4mm, $2.95** and **FLW105, Flat Lead Wires 0.2 X 1.5mm, $3.10**. We are hoping for more sizes in the future.

Under the SRI-UMM banner is a handy set of putty knives known officially as **JSB400, Wax Carvers - Set of 4 Putty Applicators, $18.05**. We feel this set is a particularly good value, as it contains four double-edged tools, which breakdown to just $4.50 each.

The quality is quite good and each tool features two unique shapes and knurled handles for a good grip.

We managed to pick up even more tools at the AMPS Nationals and we hope to detail them in the next issue. For a whole evening's worth of entertainment, dance on over to their website at **www.umm-usa.com**

Vallejo

The news that Vallejo had already released some primer paints caught us off guard. Apparently, they already have them out in black, white and gray. Now they are starting to release them in a wider variety of colors. This is very handy because now your primer and base coat of paint can be combined into one step.

Here's a list of the new colors: **RAL 7021, German Panzer Grey; RAL 7028, German Dark Yellow; RAL 8000, German Green Brown; RAL 8012, German Red Brown; 73607, U.K. Bronze Green; 73608, US Olive Drab** and **73609, Russian Green.** These Vallejo Surface Primers come in 60ml flip-top bottles. If you want to learn more, flip ahead to Tom Jett's review of the Bronco Archer. He got his filthy mittens on some samples before they even arrived here at Ampersand World Headquarters.

Website: www.acrylicosvallejo.com

Verlinden

Lately, Verlinden has been putting out some very nice accessory sets. These sets have a leg up on the competition in that they are a complete package and include nifty stowage articles along with some decent figures. Look for these to complete your next project: **2722, M1151 Stowage/Crew, $29.95; 2723, IDF M51 Sherman Crew - Ammo Stowage, $32.95 and 2725, SDKFZ 7/2 3.7 Flak Crew -Ammo - Stowage, $32.95.**

If you need a shot-up turret in a hurry, try these: **2720, Point Blank T34/85 Turret (Dragon), $21.95** and **2727, Point Blank T 72 Turret (Tamiya), $26.95.**

Last but not least are three other sets that are bound to come in handy: **2718, Middle Eastern War Loot, $19.95; 2719, T-72 Engine Compartment (Tamiya), $39.95** and **2726, German Light Mortar Crew, $16.95.**

Website: www.verlinden online.com

Voyager

Voyager seems to always be at the forefront when it comes to photo-etch accessories with sets for the hottest new kits. It's a shorter list than usual but all of it looks tasty: **PE35450, Modern US Buffalo 6X6 MPCV 2004-2006 Production (Bronco); PE35479, WWII German Jagdpanzer 38(t) Hetzer-Starr (Trumpeter); PE35480, Modern US M-ATV MRAP Basic (Kinetic); PE35481, Modern US M-ATV MRAP**

Rhino Anti IED Device sets (Kinetic) and **TEZ046, 1:35 WWII German AFV Disc Pattern Camouflage Masking Stencil 2 (GP).**

Website: www.voyagermodel.com

Cargo Box; PE35484, Modern Russian BTR-40 APC (Trumpeter); PE35488, WWII US LVT-4 Water Buffalo Landing Vehicle Tracked Late Version Basic (AFV Club); PE35489, WWII German Sd.Kfz.231 8 ROD early version (AFV Club); PEA298, Modern US M-ATV MRAP

Zvezda

We only spotted one new item from Zvezda: **3651, WWII M-72 Soviet Motorcycle with Mortar, $19.95.**

There were a couple of 1:72 scale items as well: **6138, Soviet Paratroops, $4.95; 6148, Soviet 85mm Anti-Aircraft-Gun, $12.50; 6161, Soviet Cavalry WWII, $4.95** and **8077, Soviet Infantry WWII, $11.95.**

The big news from them is actually only a rumor at this point but we're going to spill the beans anyway. Can you say T-80 UM? Yummy!

Website: www.zvezda.org.ru

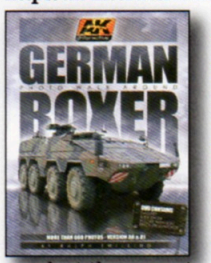
Book Reviews

Beutepanzer 1939-45
By Robert Johnson and Uwe Feist
Published by Feist Books
264 Pages, B&W with Color
www.feistbooks.com

To kick off this edition of book reviews, Beutepanzer

is a big, fat hard cover book that we just don't see the likes of much anymore. The undertaking itself is rather ambitious as it provides a photo catalog of the different types of foreign vehicles pressed into German service during WW2. Tanks are not the only vehicles included, as there are a lot of soft skins thrown into the mix. There are also enough vehicle wreck shots in here to make Panzerwrecks jealous. Beutepanzer starts off with a brief introduction, the most interesting part being a gloss on the German nomenclature system for impressed vehicles. The photo essays are divided up into separate chapters: Polish Campaign, French Campaign, UK, Russian, U.S., Italy, Hungary and Lend-Lease. The Polish section is relatively short since most captured armor from this campaign was considered obsolete. However, the French Campaign is a real treasure trove with tanks, half-tracks and Renault UE tractors in abundance. The United Kingdom section has vehicles from all theaters from France in 1940, North Africa, and Western Europe 1944-45. The Soviet Union chapter is the largest at 97 pages. Early war coverage of vehicles such as the T38 amphibious tank and the giant T-28 is very interesting. The majority of the U.S. section is on the Sherman and the Lee. The Italy and Hungary chapters are both rather short but the Italian section does have some neato paint job ideas. The book concludes with Lend Lease equipment from the Russian front. While this big book comes with a big price tag, hardcore WWII tread heads will find it to be an inspiration for many projects.

AK095 DVD: German Boxer Photo Walk Around
By Ralph Zwilling
Published by AK Interactive
www.ak-interactive.com or
http://ak-interactive-usa.com



The Boxer is an eight-wheeled multi-role armored vehicle developed by the Germans and the Dutch to replace their obsolete light armored vehicles. The Bundeswehr plans to use them to replace the aging Fuchs and some of their M113 variants, while the Dutch are going to supplant the support variants of their YPR-765 and M577 vehicles. The Boxer has a modular crew compartment that is mission specific, whether it is for an APC, Command, Logistics, Repair or Mortar Carrier version. Presently, both Revell Germany and Hobby Boss put out a 1:35 scale version in styrene. This new photo CD by Ralph Zwilling (a.k.a. king of the modern vehicle walk around) contains more than 600 photos that cover the A0 and A1 German versions. Inside the case is a little booklet with some color plates and full color three-quarter views of the Boxer. The DVD itself is divided up into seven chapters: turret, crew, engine, external, crew interior, driver interior and suspension. The turret section includes both the FLW200 remote weapon system and the AGDUS combat simulator. The crew section is a nice addition as it's a great figure modeling reference. Now all we need is some good figures. Anyone? Exterior details

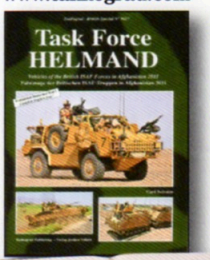
are next, followed by a really cool engine section that shows a pulled power pack and the empty compartment. Schwing! There is also a great presentation for the interior with sections for the driver and the crew compartment. The DVD wraps up underneath the vehicle with the suspension details. Perhaps the only drawback to this fantastic reference is the lack of any textual information to explain what you are looking at. If you are detailing the Boxer, go get this DVD.

K5(E) Railgun Detail in Action
By David Doyle
Squadron/Signal Publications
80 Pages B&W with Color
ISBN 978-0-89747-635-5
www.squadron.com

It's about time to pull that Dora kit down from the top shelf of the closet and dust it off. Squadron and David Doyle team up

to give you the most rail gun reference bang for your buck. The opening portion of the book is made up of period photos. Some of these photos are especially nice as they show the crew in action. From there, you dive into walk-arounds of the two surviving examples, one in the USA and the other at the Atlantic Wall Museum in France. Between the two guns, pretty much every modeling detail is covered. Scattered throughout the detail photos are line drawings that depict very relevant details such as the aiming station configuration and crew positions. There are two small color plates of the surviving guns included. as well. In summary, this is an excellent guide for detailing a K5 rail gun at a very reasonable price. Thanks go out to David Doyle for the review copy.

Tankograd British Special No. 9017:
Task Force Helmand, Vehicles of the British ISAF Forces in Afghanistan 2011
By Carl Schulze
Tankograd Publishing
64 Pages Full Color
www.tankograd.com

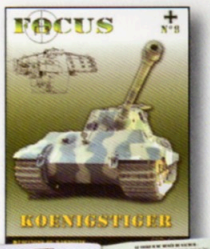


One of the best things about Tankograd Publishing is their versatility. They not only have great reference on subject matter from WWI and WW2 but they also deliver when it comes to the Cold War and up to the minute subjects such as Afghanistan. Their new book on the British ISAF (International Security Assistance Force) is a title that provides a pretty comprehensive overview on the vehicles currently in use by that force in Afghanistan in 2011. A short textual introduction gives a background on the British role in the current war as well as their current composition

and mission. Vehicle chapters include the following: Light Wheeled Vehicles such as the Land Rover, Protected Vehicles such as the Jackal and Coyote, Reconnaissance Vehicles and Armored Infantry Fighting Vehicles such as the Scimitar, Spartan and the Warrior, Trucks such as the Leyland, Pioneer Equipment, Field Logistics, Artillery including the MLRS and Helicopters.

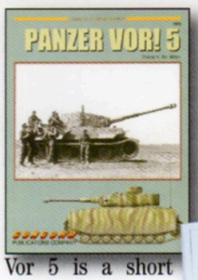
It's a lot of ground to cover, but Tankograd does a great job with at least one full-color photo of each vehicle or system. It's a total bar-armor fest and hopefully the styrene giants will pay attention to this one and provide us with some of these really interesting vehicles. It also serves as a pretty good reference for kits that are already out there such as the Accurate Armour Coyote and Jackal. Fans of modern armor subjects will not want to pass this one up.

Focus No.8 Koenigstiger (Tigre II Ausf. B)
By Pascal Danjou
Published by Editions Du Barbotin
50 pages B&W with Color
ISBN 978-2-917661-14-7
www.minitracks.fr



Koenigstiger is the latest in Edition du Barbotin's Focus series. It follows the same pattern as the other books, having a concise vehicle history up front followed by an extensive walk around from a surviving example. The vehicle history section for the venerable Tiger II is very concise. In 13 pages there is coverage of the vehicle's development, what units were deployed with the vehicle, camouflage schemes and even some coverage of the Befehlspanzer (command version) and the Jagdtiger. There are some period photos of both the Porsche and Henschel turret versions along with two of the Jagtiger. The walk around photo essay that takes up the majority of the book comes from a Henschel turret version with zimmerit that is housed in the tank museum at Saumur. This exterior walk around is very extensive and includes many shots of the finer details such as onboard tool stowage and other exterior fixtures. The book wraps up with a few pages of color 1:35 and 1:72 scale drawings. In short, this book makes for an excellent "pocket reference" to detail your next King Tiger.

Panzer Vor! 5
By Frank De Sisto
72 Pages B&W with Color
ISBN 962-361-176-5



Panzer Vor 5 is actually the first volume in this ongoing series that we have looked at. We received our review copy from Dragon USA (www.dragonusaonline.com). The opening text of Panzer Vor 5 is a short summary of the overall tactical/strategic vision of mobile warfare thought up by the Germans that became Blitzkrieg. What follows is perhaps more relevant to modelers: the photos and color plates. There are 176 photos in all. There is a wide array of German vehicles here with an emphasis on early war armor. Early armored cars and Panzers I-IV along with the Czech 38t get the best treatment. This is not to say that later war armor is left out, as there are some Tigers and Panthers and other stuff thrown in for good measure. The author gives an authoritative commentary to each photo with plenty of funky German terminology to groove on. Perhaps the only real criticism we can level at this book is that some of the photos are small, making it hard to see what the author is talking about in his captions. In the middle of the book are 16 well-done color plates: one Sd.Kfz. 231, one Sd.Kfz. 232, three Panzer Is, three Panzer IIs, two 38ts, one Tauch Panzer IIII, one Panzer IV, one Tiger I, one Elefant, one Marder III Ausf. H and one Borgward demolition charge carrier. Panzer fans will want to take a good look at this one and check out the other titles in the Panzer Vor series too.

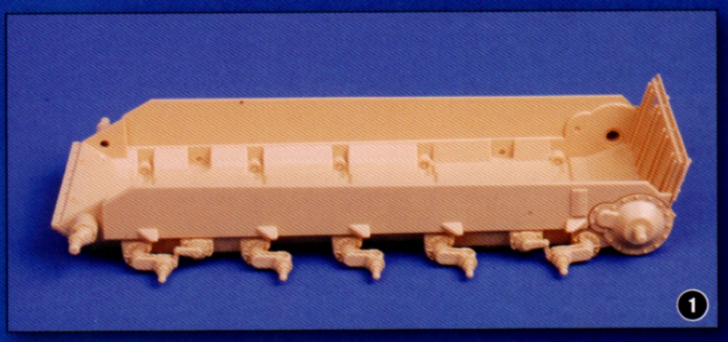
G028, DANA ShKH vz.77 in Detail
By Jan Horak and Frantisek Koran
Wing and Wheels Publications
164 Pages Black and White with Color (Mostly Color)
ISBN 978-80-86416-98-4
www.wwpbooks.com

We took a look at an excellent reference on the DANA back in MMiR 54 by Tankograd, but in all fairness we have to let you know about the WWP title too. Just to recap a

bit, the DANA is a Czech self-propelled 152mm howitzer mounted on a monster eight-wheel truck chassis. WWP starts things out with a short chapter that includes a textual background along with some really nice Cold War era photos of the DANA in action. From here on out everything is in full color and the pictures are nice and big. There are some full page overall shots before the book jumps into "insane-walk-around-detail-mode" with sections on hull exterior details sprinkled between short essays on the front cab interior, filter compartment, engine compartment and engine. The turret is also covered in the same level of detail both inside and out. There are extensive line drawings throughout to give an overall feel for the close-up detail photos. The frame and chassis round out the walk around section before paint and camouflage are discussed and illustrated. The last few pages are color plates of nine unique paint schemes. Weighing in at 164 pages and packed with all the attention to detail that makes WWP books worth the price, we can safely give this book an unreserved recommendation as a reference for going absolutely nuts on the Hobby Boss kit.

Baby Bac

Tamiya creates a conversion of one of its own.



The title of this article has nothing to do with its subject. That being said, the T-55 is a tank that really doesn't need any introduction, but the T-55 Enigma version is actually a little obscure. The "Enigma" modification is a domestically manufactured Iraqi appliqué armor kit that was fitted to some of their T-55, Type 59 and Type 69 tanks. It's a simple enough modification, being composed of metal boxes of various sizes that contain layers of thin, metal plates inside. The protection upgrade works on the spaced armor concept by pre-detonating HEAT warheads. It can also change the path and dissipate the energy of kinetic energy projectiles to a certain extent. It's simple, it's cheap and it works. During the Battle of Khafji in 1991, a T-55 Enigma took hits from four MILAN missiles before being knocked out by a helicopter. Coalition forces captured several examples that made their way to Britain, France and the U.S after the First Gulf War.

The Tamiya T-55 "Enigma" (MM35324) is a variation of their tremendously successful T55A kit (MM35237). There is a mix of old and new in the box as the lower hull and chassis are the same as the previous kit. There are four new sprues for the upper hull, turret, that spanky add-on armor and a few other small parts. The Enigma is pretty neat looking and several aftermarket companies have released 1:35 scale conversion kits in the past including Verlinden, Cromwell, Legend from Korea and Voyager, all for the Tamiya T55A base kit. I guess someone at Tamiya finally woke up to this and decided that they should throw their hat in the ring, too.

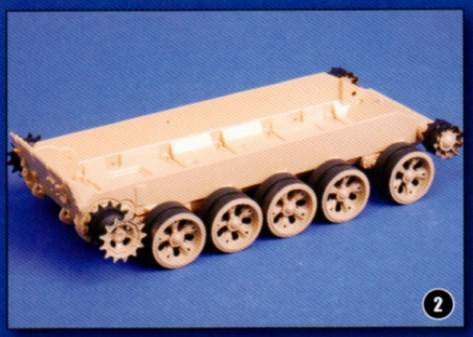
The kit itself is everything we have come to expect from Tamiya, being easy to build with pretty good detail and a ridiculously high suggested retail price. I have no major problems with construction at all. There are a few seams and knockout marks to fill but there are no unforeseen challenges. The same goes with the fine details, as all of the major features are covered nicely. However, there is room for the some extra fun. I bolt counters to add detail where h a v e some minor omissions jumped out at me, but there is more that some nutty individual could do. By the way, there is a lot in print on the T-55, but not much on the Enigma modification. The Prime Portal website (www.primeportal.net) comes to the rescue with excellent walk arounds of two examples including the one at Bovington in Great Britain that the model is probably based on. As for the suggested retail price of $75.00, I'm glad that there are hobby shops that ignore this and offer it for a sane price.

Tamiya instructions remain the best in the business. There are 22 steps total and the construction sequence is conventional in that it starts from with the suspension and works its way up through to the turret. Unlike other Tamiya kits, there are lots of leftover parts when you are done because of the use of the T55 base kit sprues. This is no problem because the instructions are so clear. This is also good as I am very easily confused by even the simplest of things such as whether to add the cream or sugar first to my coffee.

Construction

The lower hull and suspension is really simple. All of the wheels and the drive sprockets have poly caps, which I love. Before I put the road wheels together I spray the backsides with Tamiya TS-82, Rubber Black to hide the plastic color. When it comes time to put the details on the rear hull plate, I modify the fuel drum racks, as I want to model my tank without the drums attached. It's pretty easy. After looking at reference pictures on Prime Portal, I remove some features on the fuel drum rack parts

k Ribs



1. The lower hull is a one-piece tub and the suspension is really simple. 2. The backsides of the wheels are sprayed TS-82 Rubber Black so no plastic color would show later. 3. To depict the fuel drum racks empty, I modify them slightly by removing details and drilling a few holes.

(A4) and drill a few small holes. Some missing bolt heads are made with a .018 punch and die. Picture three shows both sides of the part after modification. After installing these parts, I add small welds beads and fill gaps left where the four A4 parts slide into the rear hull plate with sheet plastic.

I deviate very slightly here from the construction sequence to build and fit the tracks before moving on to the upper hull. I choose to use Friul Model white metal tracks for this project (ATL-01). I did try out the included vinyl tracks. The detail is actually pretty good, but the fit is too tight. The Friul tracks are expensive and the fit over the drive sprocket is not as perfect as it could be for the price. There are other options available to the modeler such as the ModelKasten (SK-59) and the new link-to-link Trumpeter (TT62) tracks that were originally for their T-62 kits (it's the same track type for both tanks), which are now sold separately. The wheels and the drive sprockets are removed and set aside for painting after test-fitting the tracks.

The next few assembly steps are for the upper hull. This part of the model that is just plain Tamiya-easy since you basically stick a bunch of parts to one big upper hull piece. I did add some small extra details. When it comes to the engine deck, Tamiya only provides a square of mesh for the engine deck screens. I throw this stuff away and replace it with sections of Royal Model Fine Diamond Mesh (Item 471) that are cut to size using an X-Acto #10 blade, a ruler and patience. This is done for both the small opening in the back of the main engine deck part and for the screens installed later on in step nine for part F4. Both Royal and Aber make several patterns of photo-etch mesh that are handy to keep in your modeling arsenal. I also blank off the holes in the engine deck with some sheet styrene that is pre-painted flat black so no daylight will show through.

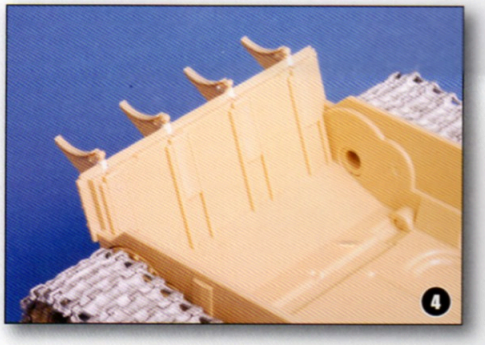
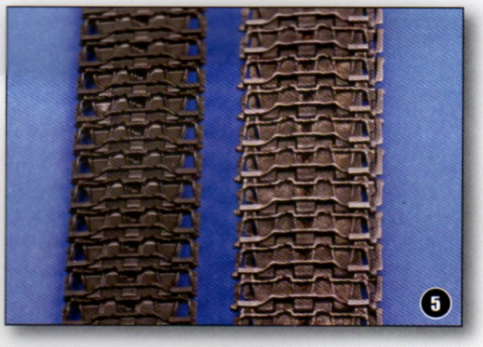
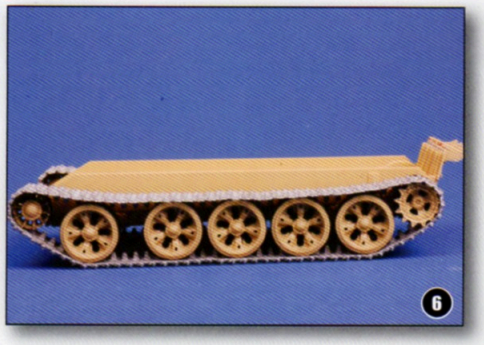
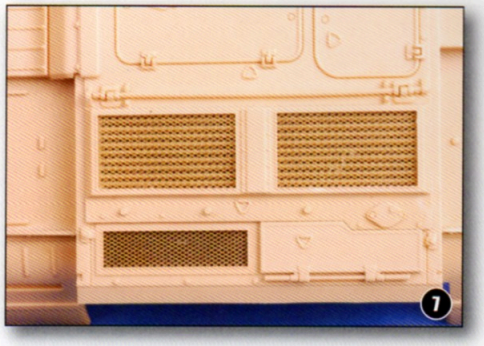
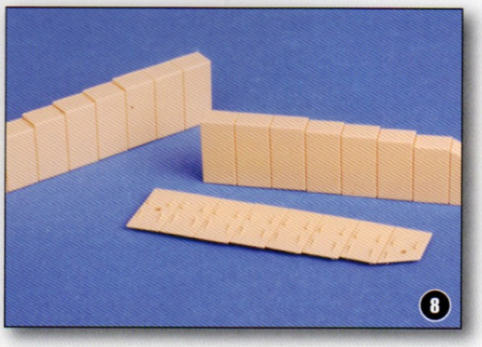
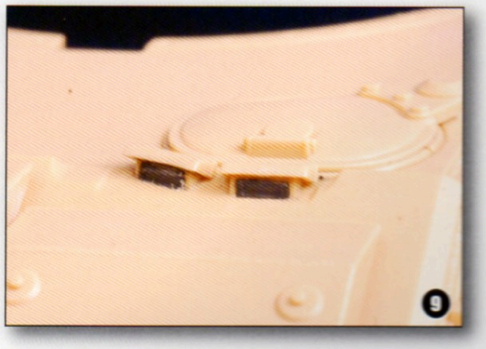
No periscopes for the driver station are included, so I shave down some from a Dragon Panther kit to make them fit. After painting the backsides Citadel Miniatures Mithril Silver, I push the periscopes into place before gluing the upper and lower hull parts together.

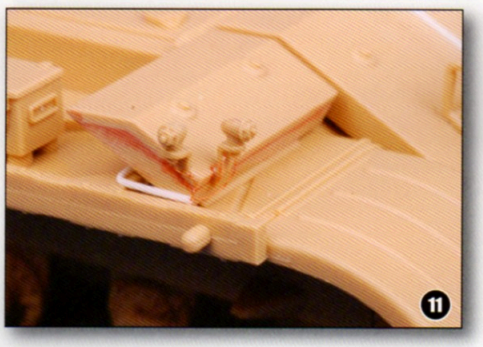
The additional armor modules are really easy to construct and the detail is nice. The fender armor blocks and side armor blocks are just two pieces each with a little filler required to fill the mating seam. It should be noted that when the Iraqis built these armor sections, the finish was a little rough. No two blocks were exactly the same and sometimes the welds were pretty ragged. The kit weld seams are nice enough for me and I like the simplicity of Tamiya's approach.

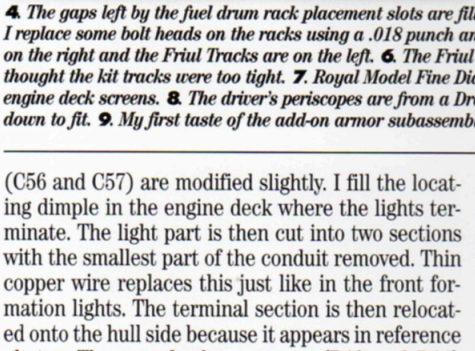
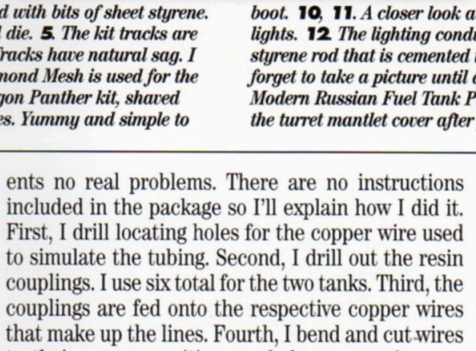
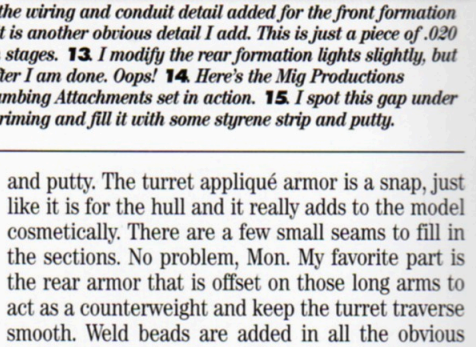
The next small detail I tackle is the front formation lights in step seven. I drill out the base of each light with the smallest pin vise bit I can find and insert thin copper wire from an old radio transistor and secure it with CA Glue. There is a length of conduit that peeks out from behind the fender armor block and the wires from the formation lights feed into it. I simulate this with .020-styrene rod bent to shape. A hole in the end that shows is drilled with an X-Acto tip.

The headlight array gets the same treatment, as the conduit that runs down the glacis plate for these lights is very obvious. It's another piece of .020-styrene rod that is bent to the approximate shape, glued to the glacis with liquid cement in stages and then terminated at approximately the proper spot next to the driver's hatch. I left the side skirt armor blocks loose for painting. They pop on and off pretty easily so I feel no need to glue them in place as shown in step eight.

It's back to the engine deck again in step 10 with a bunch of parts to attach. The rear formation lights



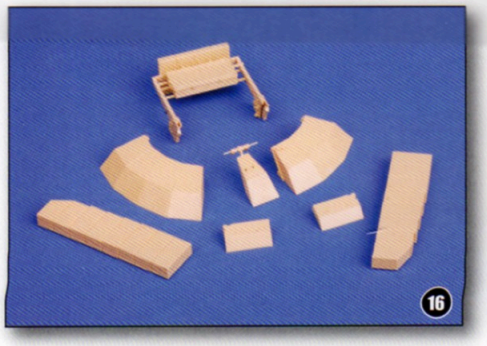




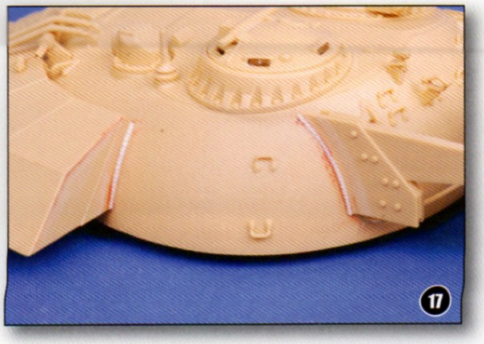
***4.** The gaps left by the fuel drum rack placement slots are filled with bits of sheet styrene. I replace some bolt heads on the racks using a .018 punch and die. **5.** The kit tracks are on the right and the Friul Tracks are on the left. **6.** The Friul Tracks have natural sag. I thought the kit tracks were too tight. **7.** Royal Model Fine Diamond Mesh is used for the engine deck screens. **8.** The driver's periscopes are from a Dragon Panther kit, shaved down to fit. **9.** My first taste of the add-on armor subassemblies. Yummy and simple to boot. **10, 11.** A closer look at the wiring and conduit detail added for the front formation lights. **12.** The lighting conduit is another obvious detail I add. This is just a piece of .020 styrene rod that is cemented in stages. **13.** I modify the rear formation lights slightly, but forget to take a picture until after I am done. Oops! **14.** Here's the Mig Productions Modern Russian Fuel Tank Plumbing Attachments set in action. **15.** I spot this gap under the turret mantlet cover after priming and fill it with some styrene strip and putty.*

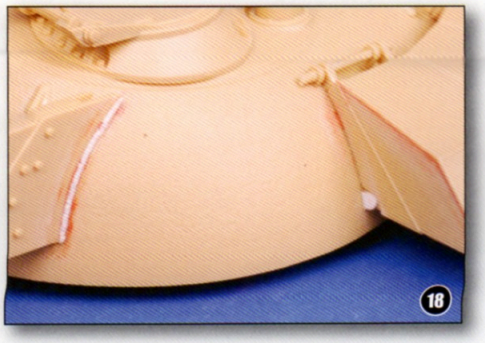
(C56 and C57) are modified slightly. I fill the locating dimple in the engine deck where the lights terminate. The light part is then cut into two sections with the smallest part of the conduit removed. Thin copper wire replaces this just like in the front formation lights. The terminal section is then relocated onto the hull side because it appears in reference photos. The rear fender supports (D10 and D11) need a little filler where they mate with the fenders.

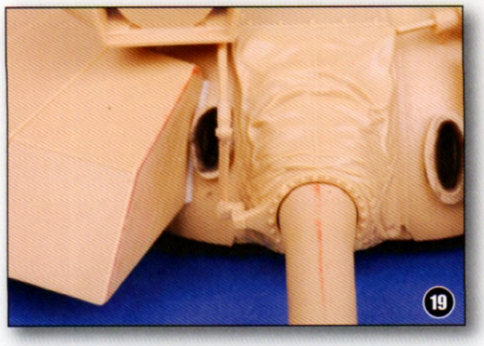
The final detail added to the upper rear hull is plumbing for the two tanks on the right rear fender. I use Mig Productions Modern Russian Fuel Tank Plumbing Attachments (MP 35-350) for this. It takes a little time, patience and CA glue, but presents no real problems. There are no instructions included in the package so I'll explain how I did it. First, I drill locating holes for the copper wire used to simulate the tubing. Second, I drill out the resin couplings. I use six total for the two tanks. Third, the couplings are fed onto the respective copper wires that make up the lines. Fourth, I bend and cut wires to their proper positions and then scoot the couplings in place before securing everything with CA glue. Thanks go out to my good tweezers.

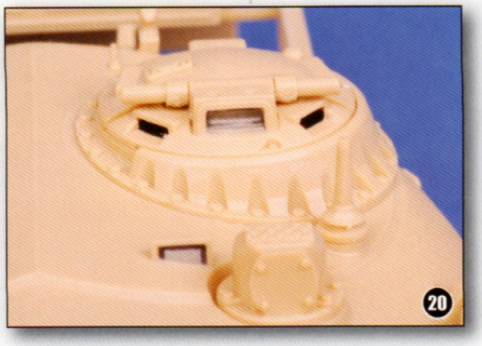
Getting the turret together is a really smooth operation but I do a little extra work to it. There is a gap underneath the mantlet cover that I find only after priming. I fill this with a bit of styrene strip and putty. The turret appliqué armor is a snap, just like it is for the hull and it really adds to the model cosmetically. There are a few small seams to fill in the sections. No problem, Mon. My favorite part is the rear armor that is offset on those long arms to act as a counterweight and keep the turret traverse smooth. Weld beads are added in all the obvious locations using the same .020-rod used earlier for the lighting conduit on the hull. Sections of this rod are cut to approximate size and then cemented in place. After final trimming, I cut up the rod with the tip of an X-Acto blade and then add liquid cement until the rod blobbed down into the shape I want. Wire leads are added to the rear turret formation

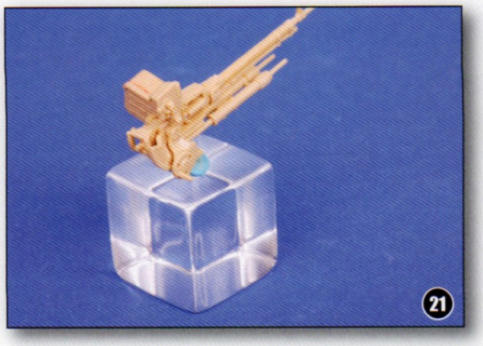








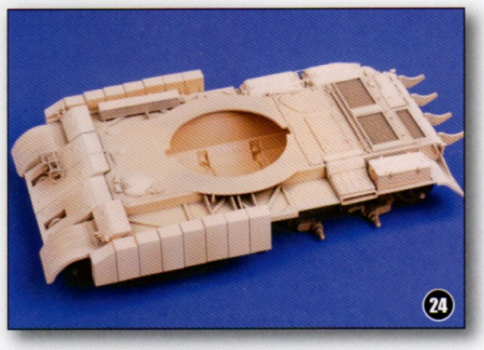


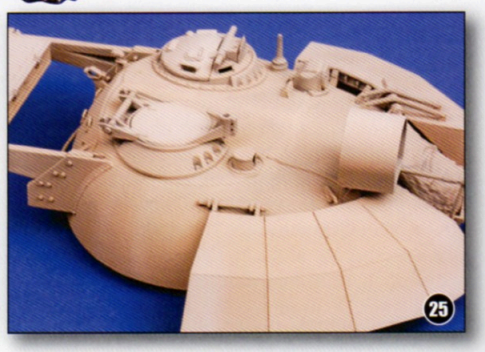


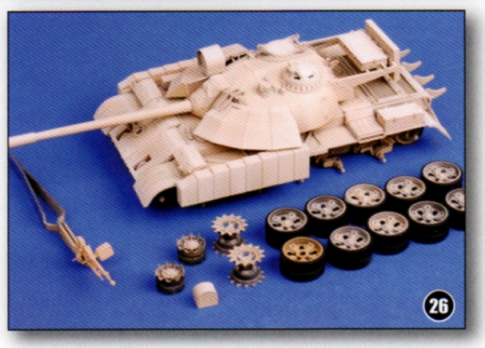
16. *Here are the add-on armor subassemblies except for the glacis plates. They are all simple to assemble and only require a little putty on the seams.* **17, 18.** *I add some weld beads to the model using .020-styrene rod, an X-Acto and liquid cement.* **19, 20.** *I add a periscope from the scrap box to the commander's cupola at this point and fill the opening for the gunner's periscope with a piece of clear plastic painted Citadel Mithril Silver on the back. The rest of the openings on the commander's cupola are filled in the same manner as the gunner's periscope.* **21.** *Tamiya's DShK has stood the test of time.* **22.** *There are actually two figures included in the kit. The one on the left is new and the one on the right is a vestige of the original T-55A kit.* **23.** *A view of the kit mocked up before painting.* **24, 25.** *Four shades were used to paint the model: a dark brown shading coat, a sand colored base coat and two highlight shades.* **26.** *Here's how the parts were broken down for painting. The armored side skirt pieces are not glued on so I could take them on and off at will.* **27.** *The highlight shades are actually rather subtle at this point, but that's okay as the weathering will accentuate them later.*

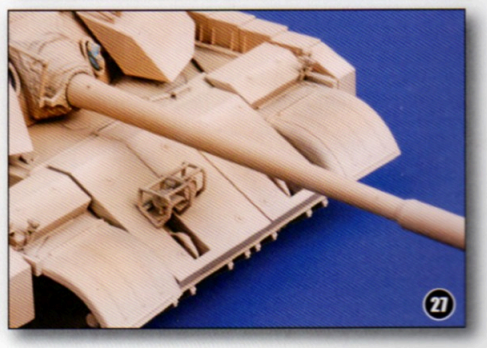
light (C59) and the big searchlight from step 19. There are some periscopes missing on the turret, seven to be exact. The commander's main periscope under the cupola searchlight is simulated with a periscope from the scrap box cut to size. The other ones for the smaller openings around the commander's cupola and the gunner's periscope are just pieces of clear plastic cut to size. I didn't have any proper periscopes to fit in those teeny openings. I also cut out an elliptical piece of clear plastic and add this to the gunner's sight opening to the left of the main gun. The clear parts are actually added after painting along with the small antenna in front of the commander's cupola, which is made from stretched sprue.

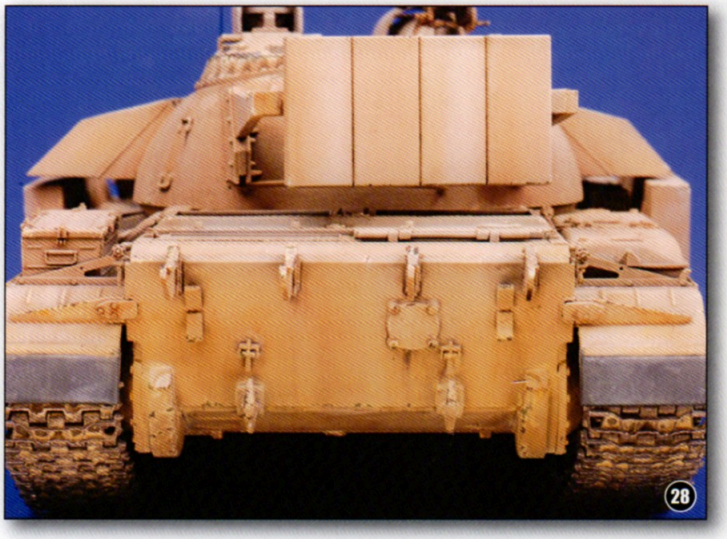
The last two construction items of note are the DsHK machine gun and the figures. I'm pretty sure the included DsHK is from the original kit. It has stood the test of time pretty well when compared to the reference photos. Super detailers out there may find a way to make a few small improvements, but I am happy with it. There are also two figures included even though the box top states there's just one. The Iraqi tank commander is decent. I think it would have been funnier posing him running away while looking back over his shoulder, or with his

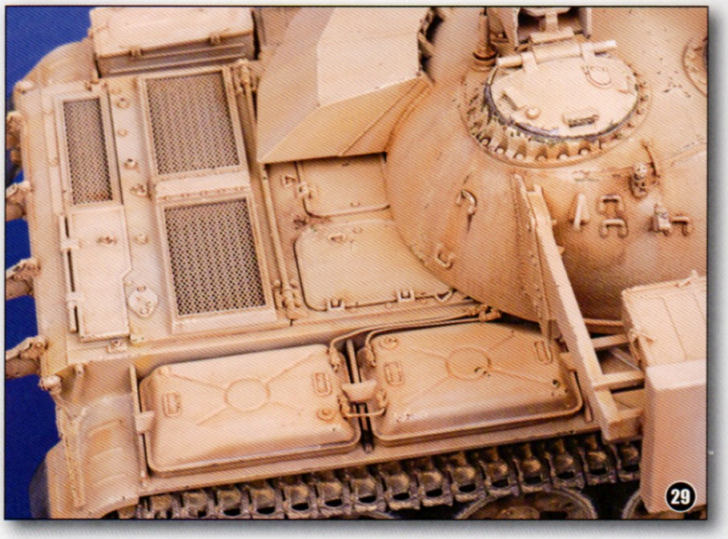


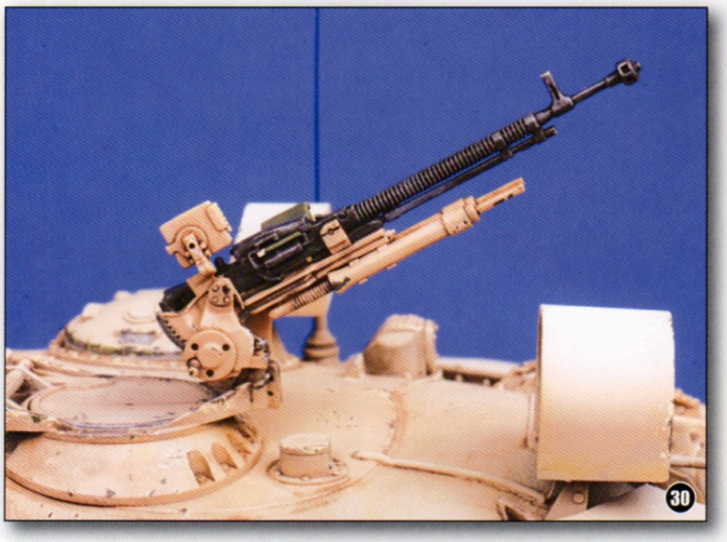










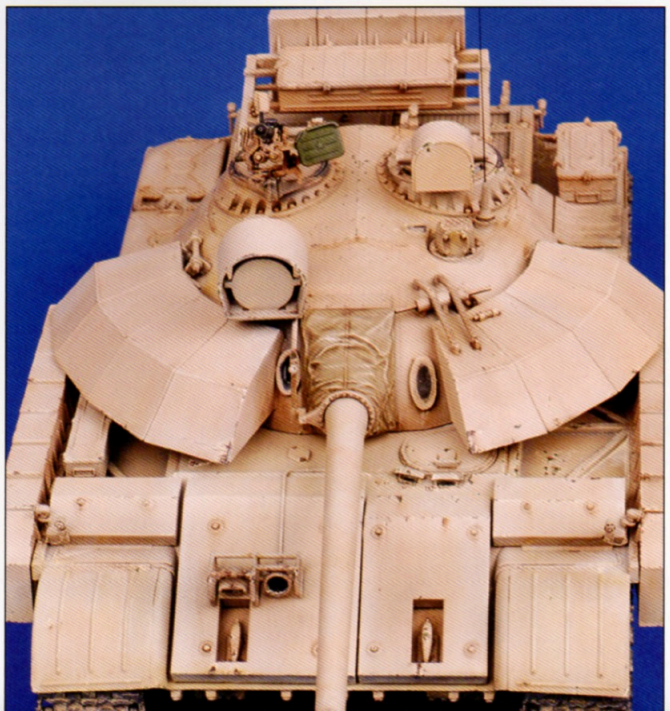


***28**. The initial application of Mig Pigments did not do the trick for me, so I mix up some Mig Beach Sand Pigment with Lukas Beige and Turpenoid and make a slurry than I apply to the lower parts of the model.* ***29**. This model is lot of fun. Tamiya can be forgiven for a lot of the missing details but for the price, it would be nice to see clear parts, new tracks and photo-etch grills included.* ***30**. A close-up of the DShK. It is painted flat black with Prismacolor Metallic Silver Highlights.* ***31**. I dry brush the model with Vallejo Pale Sand and then used this same color for chips and scratches followed by smaller areas of Vallejo Camouflage Black Brown and Russian Green for depth.*

hands in the air—but that's just me. The second figure is a leftover from the original kit and he's kinda blobby by today's standards, but he is there for filling in hatches.

Paint and weathering

It's time to slap some paint on this puppy and throw it on the shelf. For painting, I keep the turret, hull, side skirt armor, commander's searchlight, wheels, tracks and DShK separate. The model is primed using Mr. Surfacer 1200. For the basic paint, I use four different shades. The first step is to spray a mix of Tamiya Flat Brown and Flat Black into all of the nooks and crannies of the model. The basic sand color is then applied. I use a blend of Tamiya Flat White, Desert Yellow and a bit of Deck Tan mixed together in that order. There is a pretty wide range of color variation on Iraqi tanks from the First Gulf War, so I'm not worried about nailing an exact shade. The third color is a highlight made by adding white to the original sand mix and sprayed carefully on all of the surfaces I want to make stand out. I also add some fading streaks on the various vertical surfaces of the armor blocks, hull rear plate and turret sides. For the fourth shade I add even more white to the highlight color and accentuate areas such as the hatches and the armor blocks. The last step with the airbrush is a 50/50 mix of Future floor wax and water to protect my work.



Brush work comes next. I use Vallejo paints for all of it. I give the model a light dry brush of Pale Sand, 70387. This color is also used for the initial chips and scratches. To give the wear areas depth, I use Russian Green, 894 to portray the original factory color peeking through in spots along with everyone's favorite SS Camouflage Black Brown, 822. The detail painting is simple. The cloth mantlet cover is Khaki, 70988 with a dry-brush of Pale Sand and some oil washes. I paint the DsHK Flat Black along with the wheels and the headlight. The ammo can for the DsHK is Russian Green in order to add some color to the model.

The wash and filter effects are all done with artist's oil paints and Turpenoid. The main colors used are Lukas Beige, burnt umber, yellow ochre, raw umber and Lukas Sepia.

Dots of burnt umber, yellow ochre and Lukas Beige are used as a filter. Naples yellow and Lukas Warm Grey are also used, but they did not really have

much effect on the color. The Lukas Beige color is really effective at bleaching out the paint and amplifying the highlights previously added with the airbrush. Raw Umber and Lukas Sepia are used for detail washes and oil stains respectively. Metallics come next. I use a Prismacolor Metallic Silver colored pencil for almost all of the metallic areas except for the backsides of my periscopes. These are painted with Citadel Mithril Silver. Finally, a nice even coat of Vallejo flat varnish mixed 50/50 with water is sprayed on the model.

When it comes time to add dirt, I start out using a mix of Mig Pigments: P037 Gulf War Sand, P234 Rubble Dust and P030 Beach Sand. This mix does not really do the trick for me so I switch gears and mixed up a slurry of the Mig Beach Sand, Lukas Beige oil paint and Turpenoid and apply it like a wash over the lower hull, wheels and fenders.

I don't want too much gunk on this model because it's a review and I want to show off the model's detail, not the dirt.

The last item before final assembly is the tracks. As usual, they are washed off with vinegar first to get rid of the mold release agent. Then I use AK Interactive's new AK159 Metal Burnishing Fluid. The instructions say to dilute the solution 50/50 with water. Following this instruction means there is enough fluid in one bottle for two to three track sets. I leave them in the solution for about 20 minutes to get the blackened effect I want. After washing the tracks off with soap and water and letting them dry, I apply a generous amount of the Beach Sand, Beige and Turpenoid wash I mixed earlier. When the wash is dry, I go over the tracks with a brass brush to make them nice and shiny.

Conclusion

This model is an excellent subject based on an excellent kit with excellent new parts for the modification. As I said before, building it is Tamiya easy. As for the missing details, most of that is chalked up to the difficulty of rendering them effectively in styrene. My only real gripes are that for the price there could have been some link and length tracks (Tamiya rocks on those), photo-etch grills and clear parts in the box. Still, I had a blast making this model.

—Jeff Kleinhenz

MMiR RECCE

Tamiya Iraqi Tank T-55 "Enigma." Kit Number 35324. Suggested Retail Price $75.00. Kit graciously supplied by Hobbylink Japan (www.hlj.com)

Mig Productions Modern Russian Fuel Tank Plumbing Attachments. Item Number MP 35-350. Suggested Retail Price $7.50. Graciously supplied by Mig Productions USA (http://mig productions-usa.com)

Friulmodel T-54/55/62 Tracks. Item Number ATL-01. Suggested Retail Price €27.00 (around $36.00). Website: www.friulmodel.hu

Royal Model Fine Diamond Mesh. Item No. 471. Suggested Retail €8.50. Graciously supplied by Royal Model. (www.royalmodel.com)

References

www.primeportal.net There are nice walk-arounds of two T-55 Enigma examples on Prime Portal. The second one (T-55A Enigma) is the Bovington vehicle that we can assume that the kit is based on. Google it!

The most effective oil paints for accenting the basic colors are burnt umber and yellow ochre. Lukas beige accentuates the highlights nicely. Raw umber is used for the detail wash and Lukas sepia is used for the oil stains and streaks.

Brummbär unplugged!

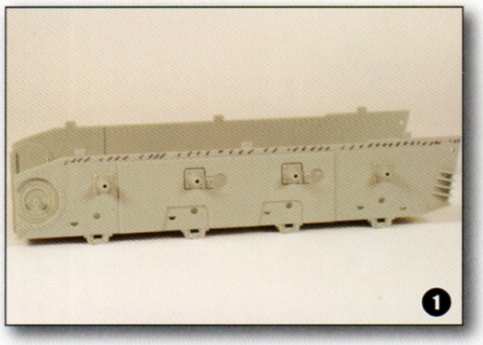
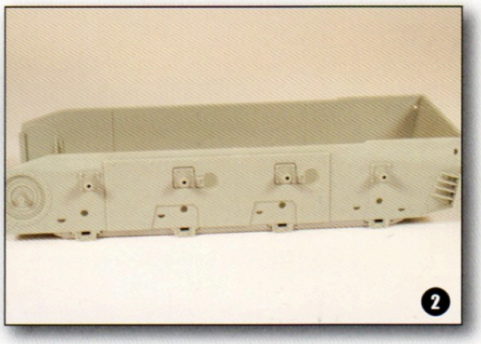
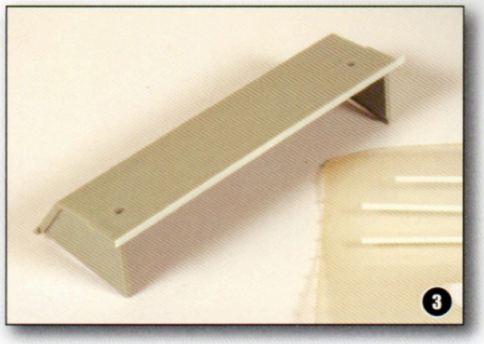
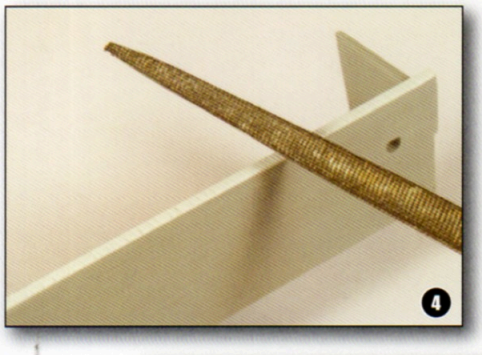
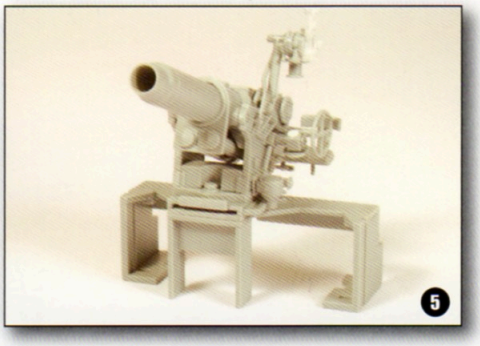
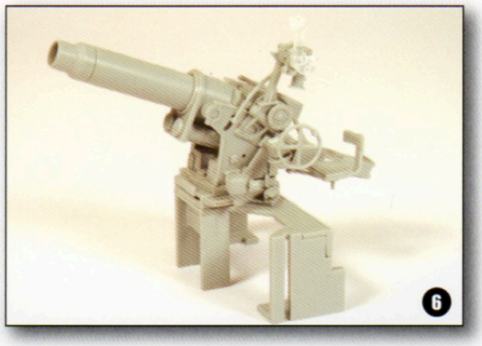
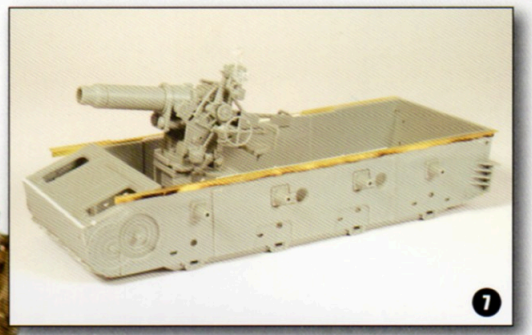
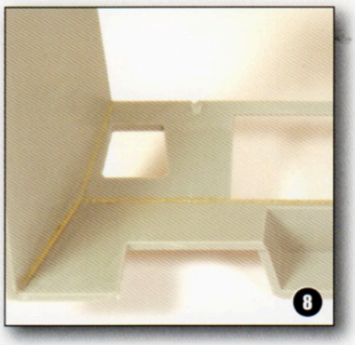
The CyberHobby kit from top to bottom

Sometimes when it rains it pours, as they say, and it is certainly true in this case. I've been waiting for a decent kit of the Brummbär for years and when they came, I got two! I am now given the choice between Cyberhobby and Trïstar. Both manufacturers make the early version of this unusual panzer. I opt to build the Cyberhobby kit because I think it is less complicated than the Trïstar one. Because I really looked forward to this kit, I immediately make the decision to give it all the bells and whistles: ModelKasten tracks, Griffon and Aber photo etch sets and I even convinced my local hobby shop owner to sell me this kit on a day he was closed! I hope you now understand how much I wanted this kit.

Building the interior

Because the real vehicle was nose heavy, I decide that I will lower the front of the model. I have to adapt the lower hull parts first before I can start anything else. This has to be done very accurately to ensure that the fenders will be attached at the right spot and that the interior will fit in. The hull parts are prepared for assembly and a torch cut effect is given to them where needed. This is done using the sharp side of a triangular file. Cyberhobby supplies a well-detailed gun barrel and breechblock to which some bolts are added with a punch and die. Before I can start with the interior I have to detail the inside and outside of fighting compartment by adding weld seams and cast texture on the steel plates. Weld seams are added with stretched sprue. Sections of sprue are added and when dry they are softened by applying Humbrol cement. When the plastic is soft enough the weld seam is sculpted with a sharp, pointed knife.

The next step is applying cast texture on the metal plates. Combining two techniques accomplishes this. In the first technique Humbrol glue is applied on the plates to achieve the cast finish. The Humbrol glue is allowed to dry for a few seconds and softens the upper layer of plastic. I then use a stiff brush and make tapping movements on the softened plastic plate. It is important to do this in small area at one time to control the progress. It can be repeated if the first result is not satisfactory. When the

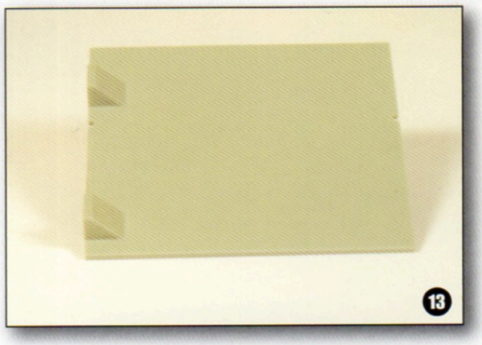









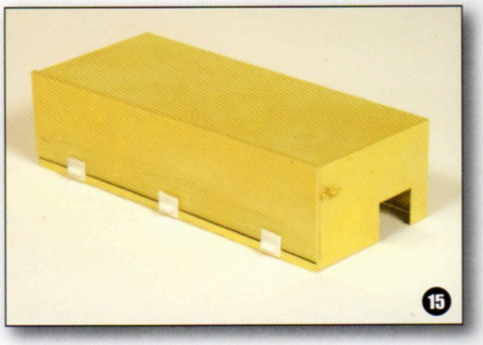
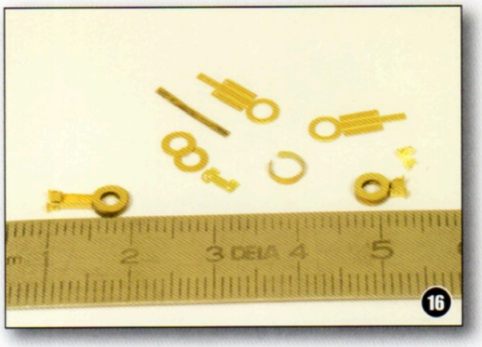
***1**. The area marked in black needs to be removed. **2**. To remove the cast on strip, some careful sanding is required. **3**. Some parts need adjusting for a better fit. In this case I use Evergreen strips. **4**. The sharp end of a triangular file is used to give a torch cut effect to the appropriate places. **5**, **6**. The Brummbär gun built straight from the box is well detailed. **7**. The gun and its carriage are dry fit in the lower hull. **8**. The stretched sprue technique is used to add weld seams on the inside. **9**. To create heavy steel texture Humbrol liquid cement is applied and after a few seconds a tapping movement is made with a stiff brush to produce an uneven finish. **10**. When completely dry, medium grit sanding paper is used to enhance the steel texture. **11**. Next, using a round dental burr mounted in a power tool at its slowest speed is gently tapped against the plastic surface to get an even finer metal texture. **12**. To clean up, a nylon brush is placed in the motor tool to get rid of all the small plastic particles.*

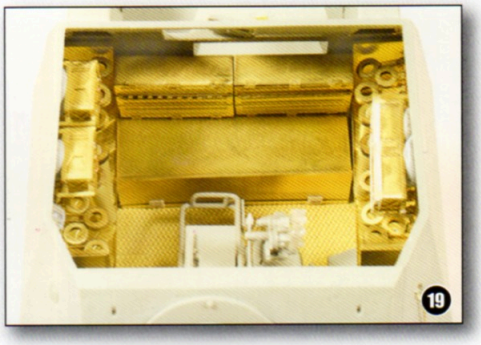
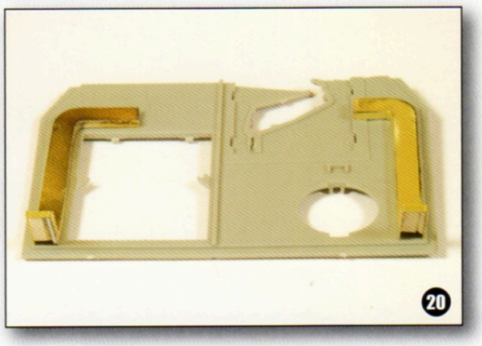
glue is thoroughly dry, the area is sanded gently and it is at this point that the cast metal effect will appear. However, it is important not to overdo this effect. To finish this process, a motor tool with dental burr is gently hit on the plastic to cause very small gouges in the plastic. After I am satisfied with the texture, I use a fine nylon brush in the motor tool to remove any small particles from the vehicle.

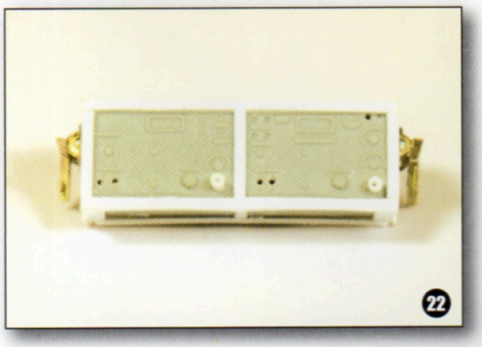
With the hull parts ready it's time to move on to the interior, which will be almost completely made of photo-etch. Unfortunately I soon realize that the Griffon interior set is not a complete interior, but nothing more than a "view through the hatch" set. All the major parts are there, but the significant details are missing. My initial reaction is to scratchbuild the missing parts from plastic card, but I soon find out that there's not much documentation available to build a decent interior of the Sturmpanzer. I am forced to use the Griffon set in spite of its deficiencies and make the best out of it. The easiest thing to do is to install the antiskid floor, which is just glued to the kit part. After this it gets serious, so it's time to take out the soldering iron. Many small boxes and ammunition holders are to be made and to make sure they do not fall apart, I have to solder them together. This method results in much sturdier parts than when using super glue. The interior set provides two big ammunition holders that are made of 77 small parts each! They are clearly visible through the hatches. I need a lot of measuring to get a good result and I take my time. It is best to measure a bit too often and then to find afterwards that a part does not fit and have to start all over again. When all boxes and bits are soldered together, it's time to test fit them to the interior. Again, patience is rewarded.

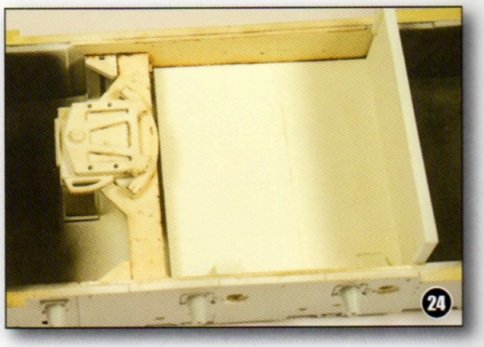
The Brummbär is an artillery vehicle so it has several radio sets on board, four to be exact. All these radios are made from very thin parts and the worst thing happens. I damage one radio beyond







13. *The floor plate of the fighting compartment as supplied in the kit.* **14**. *The photo-etch floor from the Griffon sets provides more realism to the floor.* **15**. *A close up of the big storage box that fits perfectly in the interior.* **16**. *The ammunition holders consist of four parts each. Twenty-six are needed and they are soldered. It's a time consuming job, but well worth it afterwards.* **17**. *To make photo-etch parts less fragile, I strongly recommend soldering.* **18**. *The almost completely soldered ammunition holder consists of 77 parts!* **19**. *An overall view of the complete interior whose parts are kept in place for the photos with blu-tac.* **20**. *Even the underside of the roof is detailed with parts from Griffon's photo-etch set.* **21**. *The photo-etch radio sets from Griffon are well detailed. Because the parts are so tiny they are glued together with superglue.* **22**. *A damaged radio is replaced by a plastic one thanks to a friend.* **23**. *The interior is air-brushed with Humbrol matt white to which a drop of brown yellow is added.* **24**. *Weathering in progress. The difference between the weathered and non-weathered parts is clearly visible.*

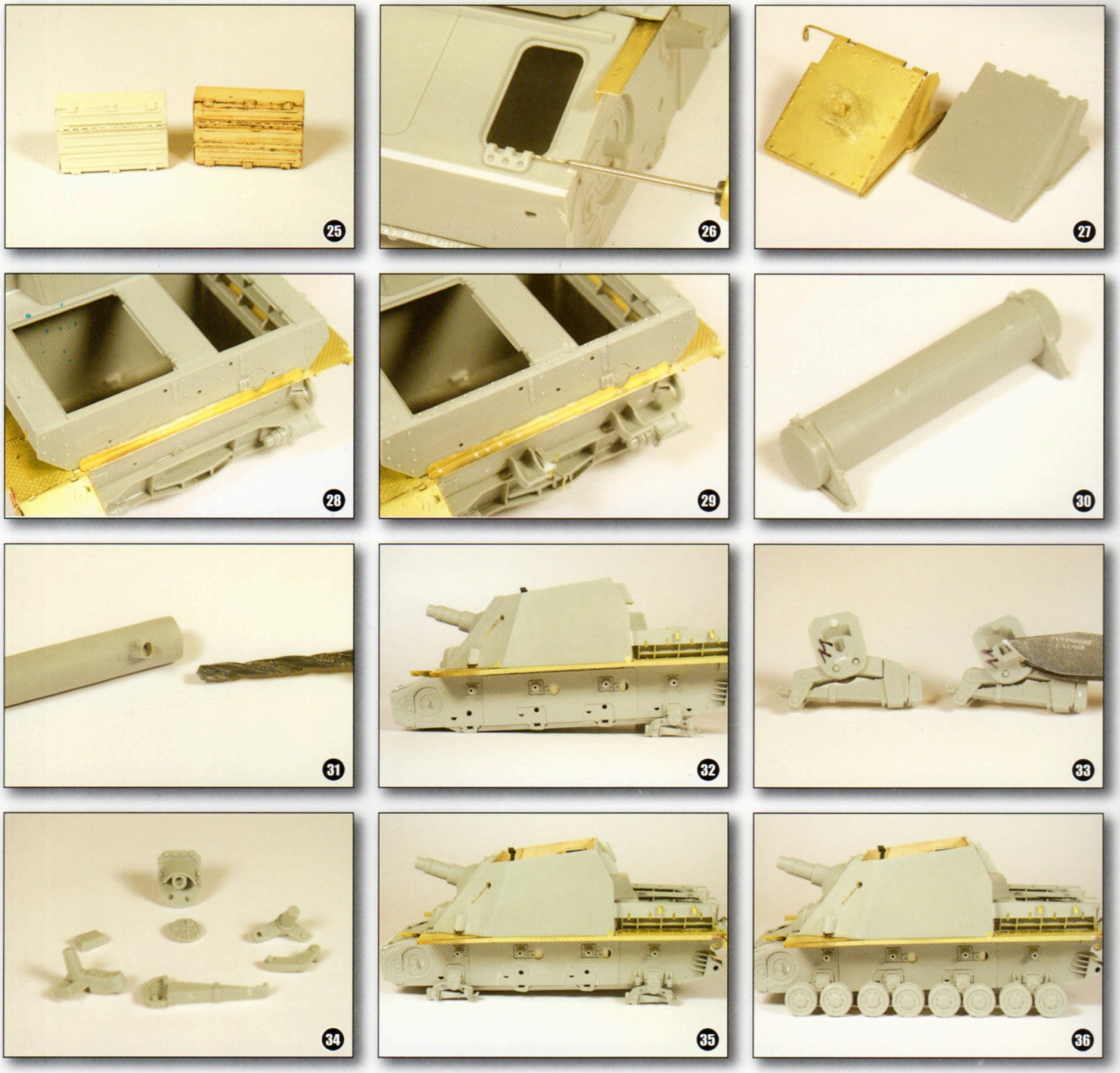
repair, but luckily a friend has a spare plastic radio that he sends me. I add a few details to the plastic radio and a headphone is taken from an Aber set. The parts used for the headset are extremely thin, but make the headphone look very realistic. With all the parts glued in place it is ready to get some paint onto the interior.

Prior to airbrushing the interior all parts are washed with soap and water. This is done to remove all the dirt and grease and make the paint better stick to the photo-etch parts. The interior is painted off white. This is a mixture of Humbrol 34, Matt White with a few drops of Humbrol 94, Brown Yellow. Where possible a support frame is made for each part to enable better handling and not destroy the paint. It's also handy for weathering work afterwards. After the paint is on all the parts are laid aside for a least a week to let the paint harden.

Weathering and finishing the interior

The first step in finishing the interior is a wash of burnt umber for the whole interior. Burnt umber oil paint is diluted with white spirit and applied with flat brush on the entire interior to give it an overall layer of dirt. The purpose of this is to create an interior that has some depth. To get even more variation in the interior, Humbrol 33, Matt Black is mixed with Humbrol 172, Brown Bess to simulate scratches and chipped paint. I apply them only to those spots that are frequently used by the crew, such as where they get in and out of the vehicle.

The final step in bringing some variation and realism in the interior is to simulate the spots where the paint is completely worn off. A silver Prismacolor pencil is used for this purpose. I keep it sharp so I can work accurately with it. The radios are painted with several grey-color paints from the Humbrol range and are given a raw umber wash afterwards. Small holes are drilled in them to receive the .2 mm

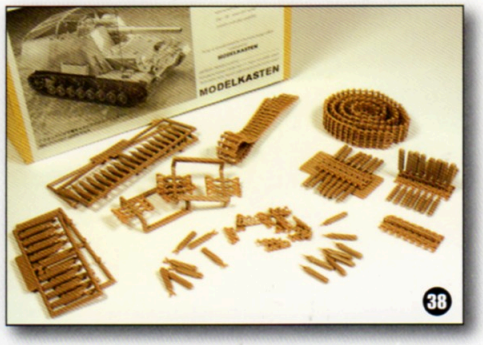


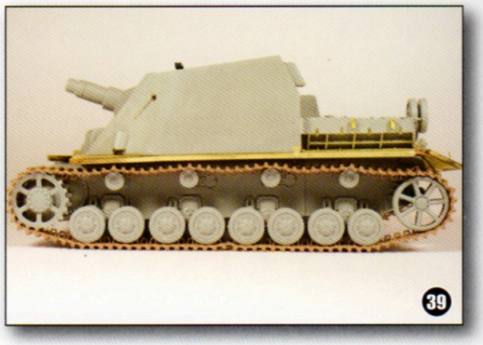
***25**. The difference between a weathered and non-weathered stowage box. **26**. The hinges are drilled out to add more detail to the model. These small improvements add a lot of realism. **27**. One of the rear fenders is replaced with a photo-etch one because it is thinner and thus more realistic. **28**. The rear is also detailed with parts from the Griffon set. **29**. Bolts are added to the photo-etch parts for further improvement. **30**. The exhaust as supplied in the kit. **31**. The exhaust is drilled out and the exhaust support brackets removed. **32**. To lower the front of the vehicle, the rear bogies are first glued in their appropriate places. **33**. The location points of the front bogie assembly are removed because they don't match. **34**. A complete bogie assembly consists of several parts. **35**. To lower the front end of the vehicle the first bogie is glued about two millimeters higher than normal. Therefore, the location pins are removed and a lot of dry fitting is done. I make sure to measure and dry fit to avoid mistakes. **36**. Once the bogies are in place, all the wheels are mounted to check their contact with the ground. I take the time now to make any corrections in height to the bogies.*

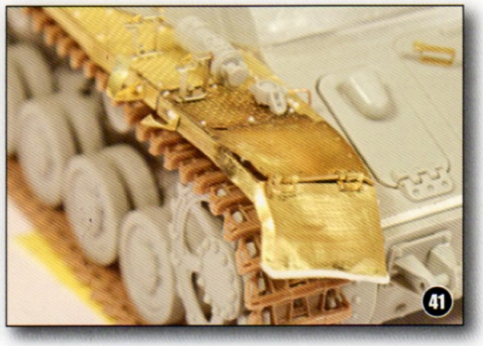
copper wire, which are glued with super glue. These wires are painted with Vallejo's 814, Cadmium Red and the headset is painted with Humbrol 33, Matt Black. All the interior parts are now weathered so the time has come to bring in the selected accessories. A few maps, some ammunition, an empty shell, a pair of binoculars, and a small ammunition box are added as a finishing touch.

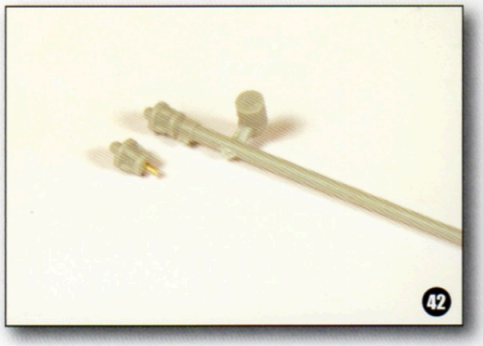
Building the exterior

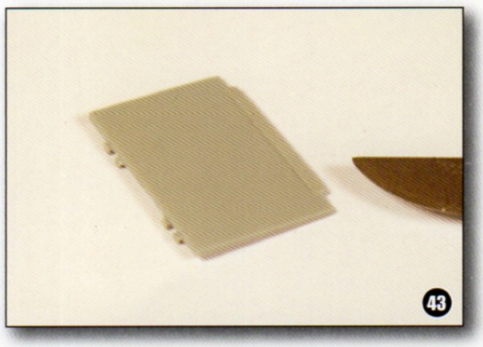
Building the exterior almost goes completely according to plan. The first thing to do is to mount the fenders. At first glance, the Griffon fenders appear to fit OK, but they do not. Either the fenders are too long, or the engine deck is too short. Shortening the fenders is not an option because then they don't fit well enough to the rear plate of the vehicle. The only option is to lengthen the engine deck by 1.5 mm. This is done with Evergreen plastic strip. The fenders are mounted and now detailing the exterior can start. Photo-etch metal fenders have an advantage over plastic ones, as they are thinner and sturdier. After checking several pictures on the Internet, With the aid of a pair of tweezers and a pair of pliers, I decide to give the front fenders rather heavy damage. Some small parts are left off to make it even more attractive. On the back, I just leave off the right fender. The exhaust supports are replaced with photo-etch replacement parts and the exhaust itself is drilled out. Dents were added with a round file to simulate a bit of battle damage. This is a subtle detail, but such small touches add a lot of realism to a model and don't require a lot of time. The rest of the model is built according to plan, except that all the tool holders are replaced by Aber photo-etch ones because of their superior detail.

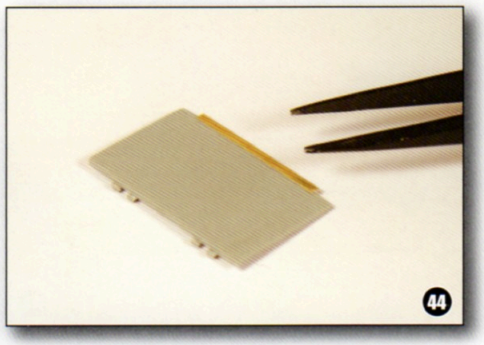


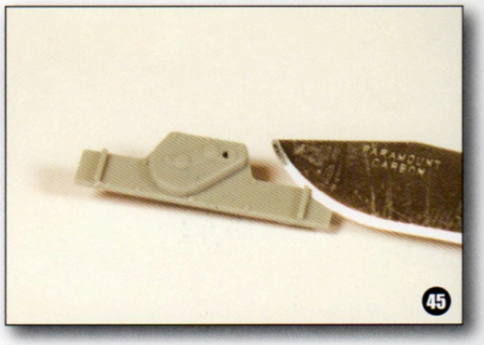


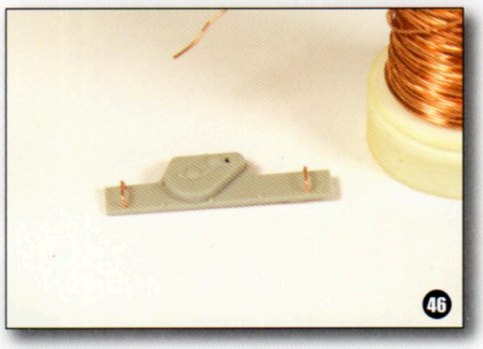












***37**. With a sharp knife, I cut out pieces of the tires to simulate battle damage.* ***38**. ModelKasten tracks remain movable when glued correctly and will add a lot of character to the model. These movable tracks give the right track sag to the Brummbär.* ***39**. Trial and error is needed to determine how many tracks links are needed.* ***40**, **41**. Close ups of the damaged fenders.* ***42**. Only the antenna mount is used, the remainder is modified.* ***43**. The lip of the hatch is removed because of its thickness.* ***44**. It is replaced with a photo-etch part.* ***45**. The jack handles are solid and are removed.* ***46**. The handles are replaced with 0.2 mm copper wire.* ***47**. The model ready to paint.* ***48**. Humbrol brown yellow with a few drops of clear is used as a basecoat for the model.*

The lower hull

The Brummbär's suspension is a heavy task to accomplish. The original Panzer IV chassis was not designed for so much weight and the first Brummbär sank through its front wheels. To create the illusion of an overstressed front chassis, some changes are made to the kit suspension and lower hull. The suspension consists of four subassemblies on both sides and I need to place both front ones about two millimeters higher than the normal position. I start with removing the location pins for the front bogies. The two rear bogies are then glued according to the instructions and when dry the other four bogies are glued on the correct positions on the lower hull. As soon as possible I install all the road wheels to ensure they all contact the ground and make any needed corrections. As I stated, you can never check such things enough. These are changes that will make a lot of difference in the overall appearance of the model.

To simulate use on the road wheels, the rubber tires are gouged with a sharp knife and small portions are removed. One of the road wheels has even the complete rubber tire missing. This is easy because this type of wheel is included in the kit.

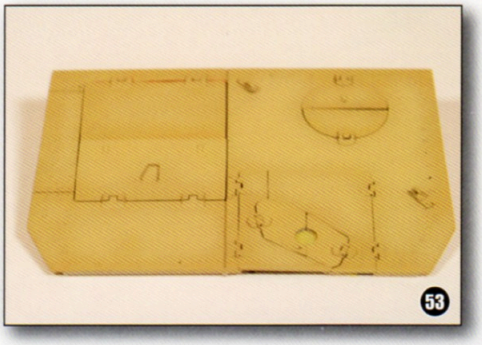
Although Cyberhobby includes individual track links in the kit these are not used because they do not remain movable after assembly. I opted for a set ModelKasten tracks. These tracks remain flexible after assembly, which results in a realistic track sag when mounted on the vehicle. It is important to dry fit the tracks to determine if there are enough links to achieve a realistic track sag. Another trick to get the right track tension is to leave the axle of the idler wheel movable. The track tension can be adjusted and when it's correct, it can be glued. There are a few spare track links in the ModelKasten set and they are used as spare tracks on the vehicle. The model is now ready to paint, but I thoroughly check it for mistakes. Afterwards all the dust, dirt, fingerprints and small particles are removed to make sure it is clean before the painting can begin.

49

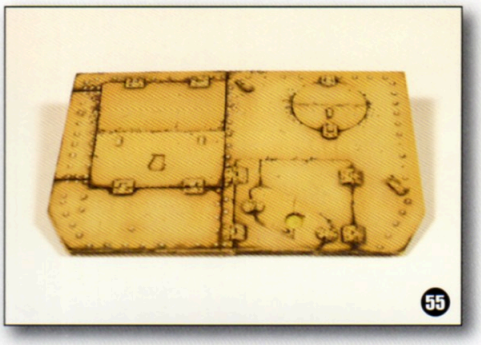
50

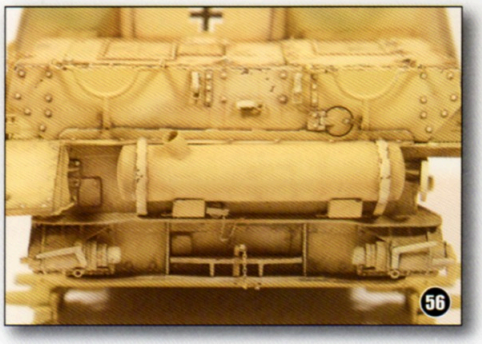
51

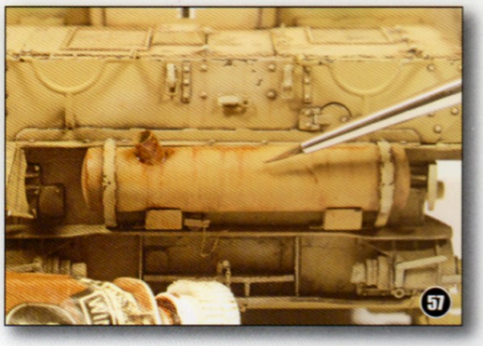
52

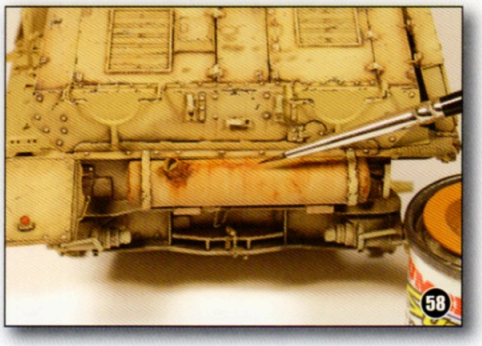

53

54


55


56


57


58

59

60

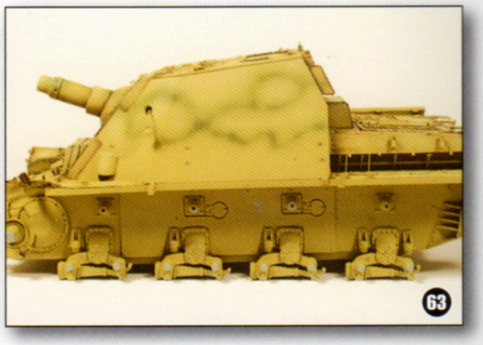
***49**. The first step to create contrast on the model is to add a bit of Humbrol matt white to the base coat and spray that mixture in the center of all the surfaces. **50**. An Iwata CM-B is used to apply the camouflage. Humbrol army green is chosen for this. The Iwata CM-B is the ideal airbrush for this job. **51**. The tracks receive a base coat from Humbrol dark earth mixed with Humbrol matt black. **52**. To create even more contrast the model is drybrushed. **53**. The model's roof, airbrushed but not yet weathered. **54**. The roof again, but now I am outlining all the small parts with a mixture of Humbrol matt black and Humbrol red brown. Note the edging technique on all the crevices. **55**. The roof completely weathered. **56**. The exhaust with its base coat on. **57**. Rust and rain streaks are painted on the exhaust with burnt sienna oil paint. **58**. To add more depth to the exhaust, chips are painted on with Humbrol matt leather. **59**. Europe dust, dark mud and Gulf War sand pigment powders from Mig Productions are mixed. **60**. White spirit is added to make it fluid.*

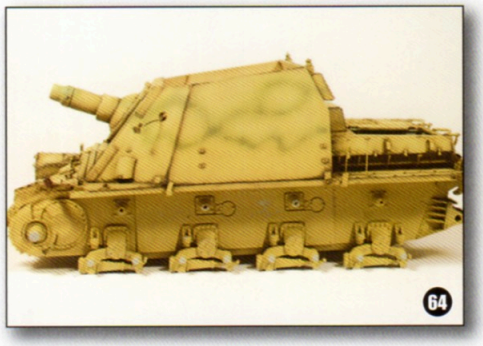
Time to paint

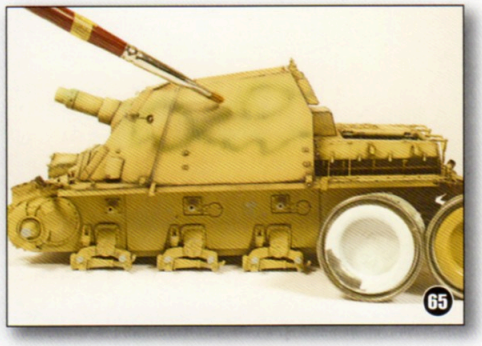
The Brummbär receives a basecoat of Humbrol 94, Brown Yellow, which is applied with a Badger 150 airbrush. I always mix some Humbrol 35, Satin Gloss with my paint to achieve a satin finish. By doing this I get a smoother surface and a very soft satin finish. To bring some contrast to the base color I add a few drops of Humbrol 34, Matt White to the mix and this is also applied with an airbrush. Because this has to be done very precisely, I use my Iwata CM-B, which is the perfect tool for the job. Adding contrast with an airbrush means I have to avoid all the raised area and items on your vehicle. Humbrol 102, Army Green is used for the camo stripes on the Brummbär. The tracks receive a coat of Humbrol 29, Dark Earth and Humbrol 33, Matt Black. The model and tracks are now set aside for a few weeks to ensure everything is completely dry before commencing the weathering process.

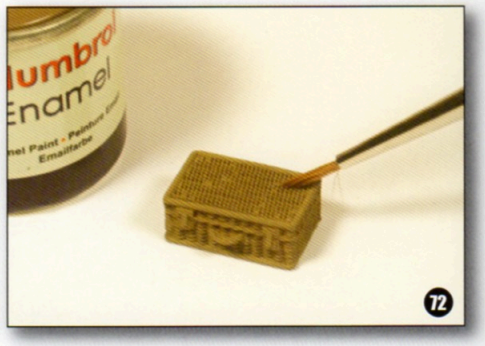
Weathering

Finally, I come to my favorite part of model building, the weathering process. To create more contrast to the model, I start by outlining all the details. This is done with a very small brush and a diluted mix of Humbrol 33, Matt Black and Humbrol 100, Red Brown. This diluted mix is painted around every detail and I notice immediately that it changes the overall look of the vehicle. When all the outlining is done and I'm sure everything is thoroughly dry, it's time to drybrush again. I try something special on this model and I call it "the light from above effect." This means I'll try to emphasize the parts that catch the most light when placed under a light source. The basecoat, Humbrol 94, Brown Yellow, is used and a little Humbrol 34, Matt White is added. With this mix I dry brush the vehicle in a very subtle fashion and then more matt white is added. This mixture is used only on those









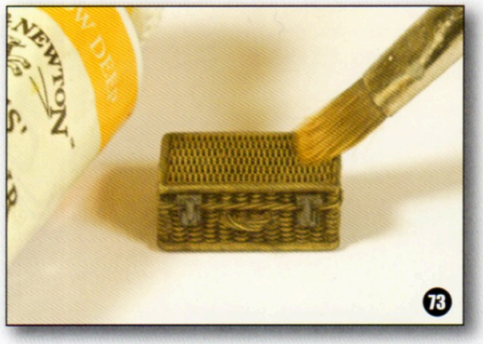
***61**. With a tapped movement this mixture was applied to the tracks. **62**. Weathering in progress. It's very clear which parts are treated and which are not. **63**. The left side of the fighting compartment prior to the weathering process. **64**. The same left side but now outlined and treated with the edging technique. Colors used are Humbrol matt black and red brown. **65**. Sometimes after outlining some parts received extra dry-brushing for more depth. **66**. The rubber parts of the wheels are painted with Humbrol matt black. **67**. To add some more contrast to the model, the hubs of the road wheels are painted with a lighter version of the base coat. Humbrol matt white was added to Humbrol brown yellow. **68**. Red primer is applied to the road wheel lacking the rubber rim. This is a mix of Humbrol matt scarlet and Humbrol rust. **69**. All the wheels are coated with undiluted raw umber oil paint. **70**. With a dry, flat brush all the surplus oil paint is removed. A small amount of oil paint is left in the cracks and crevices and provides a nice contrast. **71**. The wheels in all the different stages of weathering. **72**. The suitcase received a basecoat of Humbrol dark earth.*

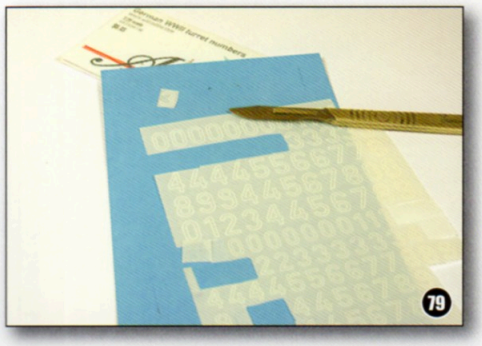
highest spots on the vehicle. With a very subtle application a variation from a dark shade of the dry brushed base color to a lighter shade on is possible. A good example is the sides of the fighting compartment from bottom to top.

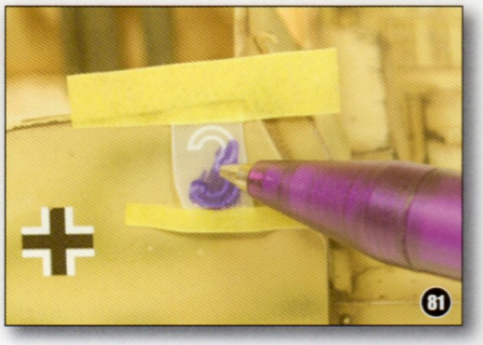
The vehicle is now ready to receive the decals. Selected Archer Dry Transfers are cut out and held in place with masking tape, making sure they are placed straight. A ballpoint pen is used to rub them off of their carrier. I simulate some wear on the markings by using a toothpick to remove small sections. When satisfied with this, I take the same mixture from the outlining process (but heavily diluted) and this is used to blend them into the surrounding area.

On the areas where dirt and filth will accumulate, I use the edging technique. The purpose of this is to apply a darker shade to all corners, sides, cracks and edges. Again, Humbrol 33, Matt Black is mixed with Humbrol 100, Red Brown, but this time it is used undiluted and only a few dots of the mixture is used each time. A flat brush is moistened with white spirit and the dots are blended into the surrounding area, but always working towards a corner or an edge. If I want more variation, I can always repeat this a second time or even more.

To create chipped paint and scratches Humbrol 33, Matt Black is mixed with Humbrol 170, Brown Bess and these are painted with a very fine Winsor & Newton brush on all the logical locations—mostly on the places were the crew enters and exits the vehicle, in and around hatches, etc. To give these paint chips a three-dimensional look, some of them are given a highlight that is painted on with a lighter version of the base color. This is composed of Humbrol 94, Brown Yellow and Humbrol 34, Matt White. To get some variation I don't apply this to all the chips. I can also create a difference by changing the mix ratio of the two colors. The other way to create highlights is to paint the highlights first and







***73**. After a wash of raw umber, the suitcase is drybrushed with Naples yellow oil paint. **74**. The machine gun receives a coat of Humbrol matt black. **75**. To achieve a metal shine on the machine gun, it is treated with a carbon pencil. **76**. A Plus Model photo-etch bucket is painted Humbrol 130, Satin White. **77**. A close up of the bucket weathered with raw umber oil paint. **78**. The spare tracks are also given a coat of Humbrol dark earth mixed with matt black. **79**. Archer dry transfers are carefully cut out. **80**. The decals are carefully positioned on the model and held in place with tape. **81**. By carefully rubbing over the decals they are removed from their carrier film and stick to the model. **82**. This is the result: the decals in place. **83**. Battle damage to the decals is simulated with a toothpick, carefully removing small parts of the transfer. **84**. The left side of the Brummbär completely weathered.*

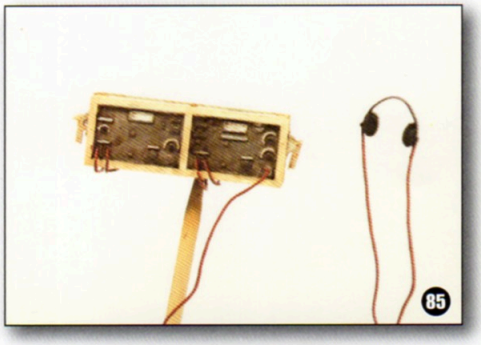
then cover some of them partly with your chipped paint mixture.

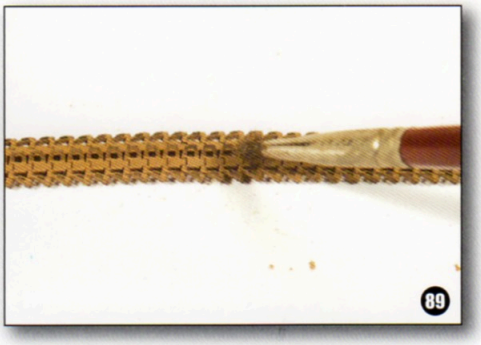
To make rain streaks on the vehicle, Humbrol 33, Matt Black, 100, Red Brown and 170, Brown Bess are mixed to different shades. These are heavily diluted with white spirit and applied to the appropriate places. A rusty rain streak is added to some of the paint chips with heavily diluted burnt sienna oil paint. In areas where bare metal shines through the paint, an ordinary carbon pencil is used to apply some very thin scratches.

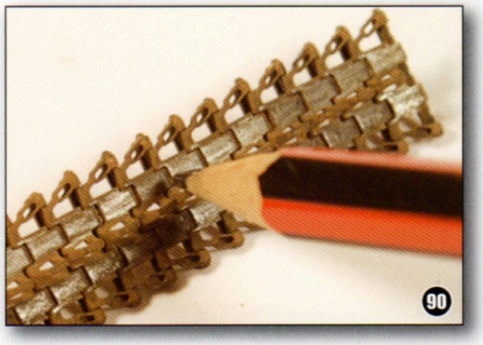
To give the exhaust a well-worn look, some burnt sienna oil paint is taken and rusty paint chips and rain streaks are randomly added. These paint chips are highlighted with Humbrol 62, Matt Leather. The soot on the exhaust is done with Black Smoke pigment from the Mig Production pigment range and is applied with a stiff brush.

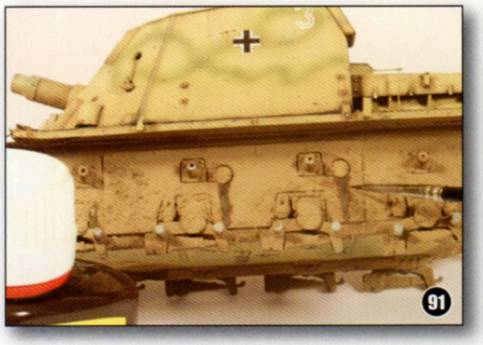
Weathering the lower hull

The first thing to do is to apply some paint to the rubber parts of the road wheels. This is done with Humbrol 33, Matt Black. When dry, undiluted raw umber oil paint is tapped on and the excess paint is removed with a flat brush. The raw umber is left behind in all recessed areas, which results in a nice contrast. Afterwards the wheels are drybrushed with Humbrol 94, Brown Yellow that is lightened with Humbrol 34, Matt White. The outer rim of the idlers that makes contact with the tracks and teeth of the drive sprockets are treated with a silver Prismacolor pencil to simulate bare metal. To add more realism to the lower hull, I create a mix of Europe Dust and Gulf War Sand pigments to which white spirit is added. This is tapped onto the lower hull. To create variation in this process I change the amount pigments in the mixture and also the amount applied to the model. The wheels and tracks receive the same mix, although it is more diluted. When dry, excess pigment is removed with a small towel and the tracks receive the same treatment, but with an old brush. The outer contact surfaces of

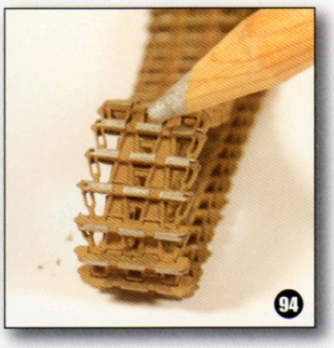








***85**. A close up of the weathered radio set with the wires attached. **86**. A view in the interior with all the details added. **87**. Mig pigments Gulf war sand and Europe dust are mixed and diluted with white spirit. This mixture is applied randomly to the model in a tapping motion to create variation. **88**. The rubber parts of the road wheels receive the same mixture as the vehicle. **89**. After the mixture on the tracks is thoroughly dry, excess pigment powder is removed with an old brush. **90**. The black metal color on the inner side of the tracks is created with a carbon pencil. **91**. The oil and grease stain mixture from Mig productions is used to simulate the spilled fuel on the fuel filler caps. **92**. The soot on the exhaust, as well as on the gun, is done with black smoke from the Mig Productions pigment range. **93**. The bare color on the wheels is created with a Prismacolor silver pencil. **94**. The outer contact surface of the tracks receives a silver shine from the same Prismacolor silver pencil. **95**. The excess pigment powder on the wheels is removed with an old brush.*



the tracks are treated with the Prismacolor silver pencil while the inner surfaces are marked with a plain carbon pencil. The outer side is bare metal because of the friction between the ground and the tracks, while the inner side is the place were rubber makes contact with metal.

Final assembly

With all the parts painted and weathered, it's now time to put everything together. The tracks are carefully glued to the model with white glue. White glue has the big advantage of drying clear and not leaving any mark on the paint. When dry, excess glue can be removed with a toothpick. All the accessories are painted in their appropriate colors and weathered the same way as the vehicle itself. They are then also glued to the model with white glue. Now I have a beautiful model to add to my collection!

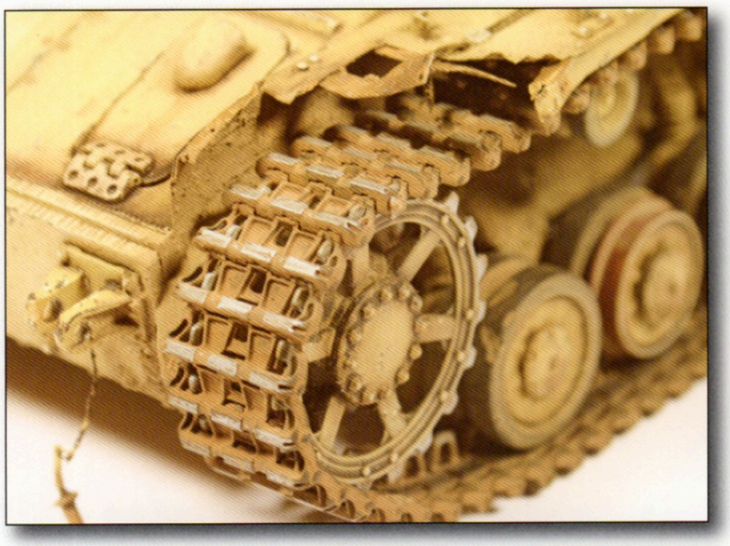
—Kristof Pulinckx

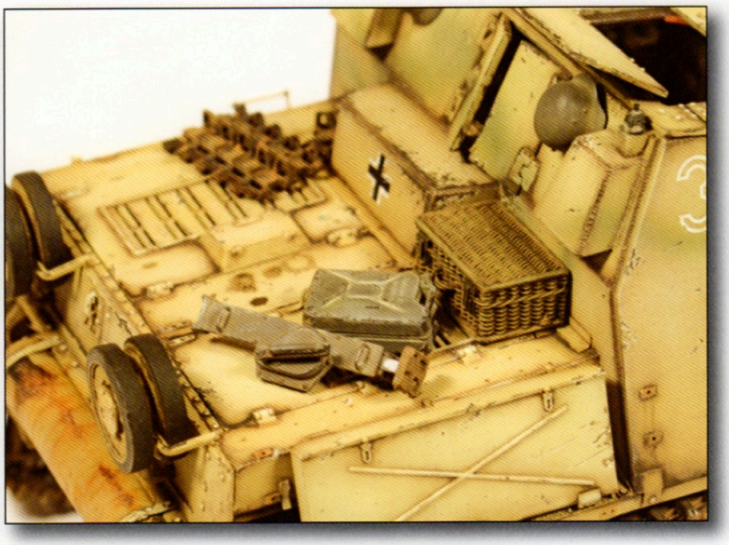
MMiR RECCE

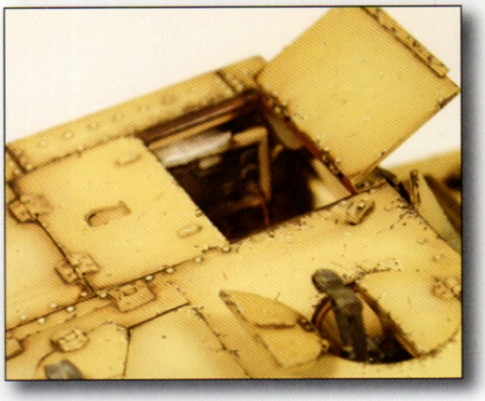
Cyber Hobby Brummbär Early Production. Kit number 26
ModelKasten movable track set. SK-18
Plus Model Metal buckets and cans. Kit number 35152
Aber 35A86, German Panzertroops accessories.
Aber 35A98, German tool holders used until 1943.
Aber 35A16, Chain set.
Griffon model set 35022, Sd.kfz. 166 Brummbär fighting compartment interior for early/mid production.
Griffon model set 35017, Track fenders for German Sd.Kfz. 166 Brummbär early/mid production.
Archer dry decal set 35041, German turret numbers.
Archer dry decal set 35043, German Balkenkreuz 1.

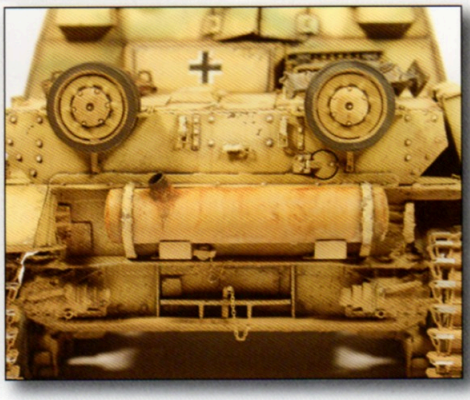
References

Achtung Panzer No. 4 by Mitsuru Bitoh and Hiromu Araki. 1994, Dai Nippon Kaiga. ISBN: 499-22643-0

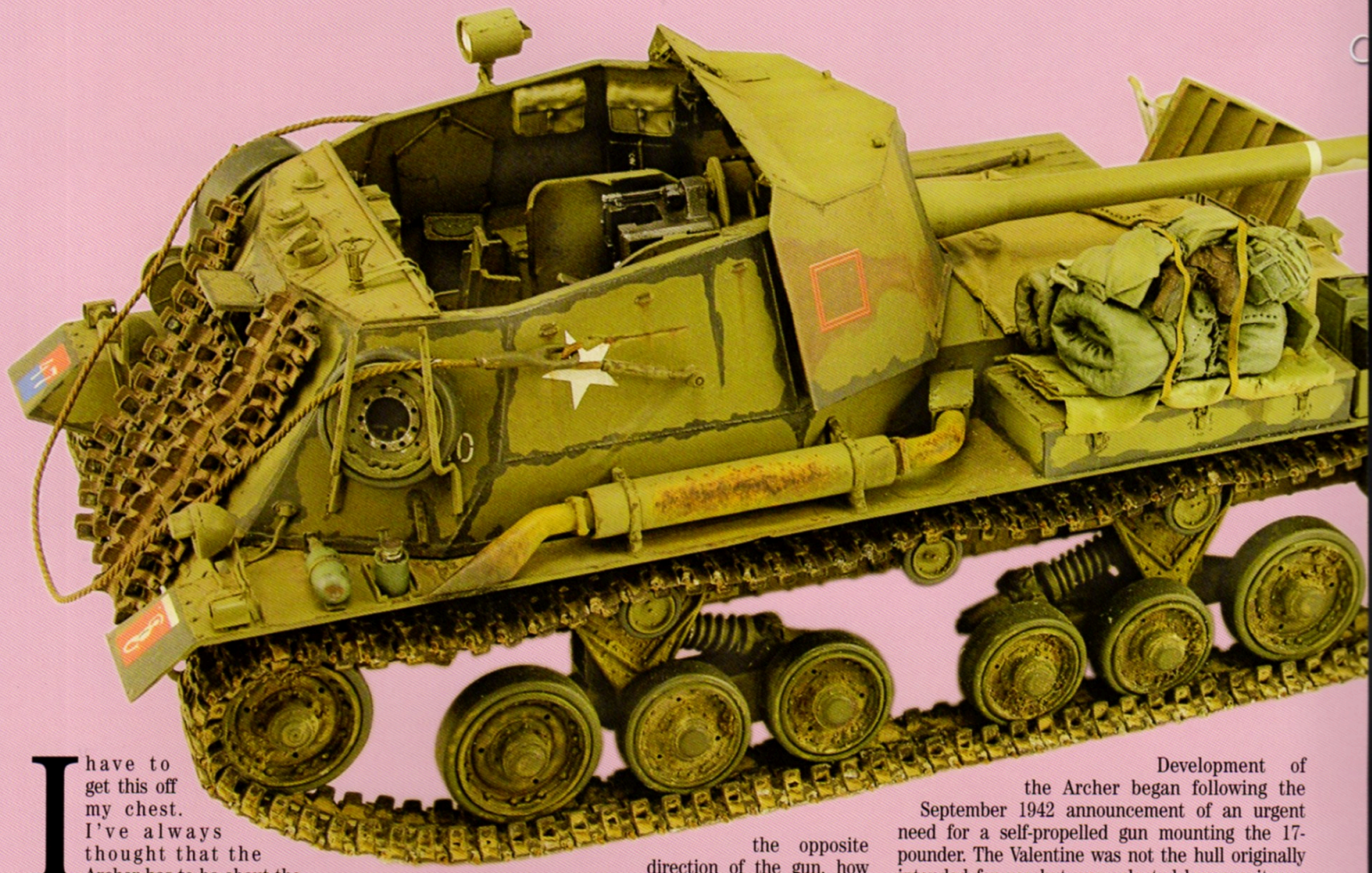








Shot with Cu



I have to get this off my chest. I've always thought that the Archer has to be about the ugliest looking thing on the battlefield. In my opinion, it is the AMC Matador (apologies to Matador lovers everywhere) of armored vehicles! I don't care who you are—that's ugly! Well, after spending the last six months with this ugly duckling, I must say my eyes have been opened. Read on, intrepid model-geek, read on.

With all the new Valentines being released in plastic, it is natural that an Archer would get released. I just thought it would have come under the MiniArt Banner, rather than Bronco. After all, the Bronco Archer shares the lower hull and running gear sprues with the MiniArt Valentines.

Prior to beginning the model and having little in the way of reference material, I am completely baffled about the Archer and how the driver is positioned in order to see where he is going. There were no hatches of view ports for him to peer out such as in the Nashorn. After I got the much needed reference material, and much to my embarrassment, that what I thought is the front end is actually the arse-end! Isn't the gun supposed to point forward? That created a new question: If the driver is facing the opposite direction of the gun, how does the tank engage a target? Does the driver have to drive in reverse and pivot the vehicle left or right to engage? No, dummy—the driver basically gets the tank into a reasonable position to engage and then puts it in park and hops out of the seat! WTF, you say? Who's the genius that thought that was a good idea?

I don't know who's ultimate idea it was to develop a tank destroyer where the gun is mounted to the rear and where the driver had to get out of his seat to fire the weapon, but thanks to Dick Taylor's excellent second volume on the Vickers Valentine (British Infantry Tank Mk III, Valentine, Part 2), I do know that it was an expedient answer to mount the venerable 17-pounder on a proven chassis. In my opinion, this second volume is a real must. Although the Archer section of the book is only about eight pages, they're extremely useful for the modeler and include good pictures of the interior spaces, line drawings, and beautiful color plates, not to mention good shots of the Archer in combat. All this will provide the modeler with the tools to give this wonderful kit the time and effort it commands.

Development of the Archer began following the September 1942 announcement of an urgent need for a self-propelled gun mounting the 17-pounder. The Valentine was not the hull originally intended for use but was selected because it was readily available. The first production prototype was delivered in May 1943. Following the inspection of the prototype and correction of some discrepancies found by the Royal Artillery, a total of 800 were ordered, but production ended after delivery of 665 units. These vehicles saw service under the British, Canadian and Polish flags in Italy, France and Germany. Its service didn't end with WWII, it continued on and served under the Egyptian flag against the Israelis during the Suez war of 1956.

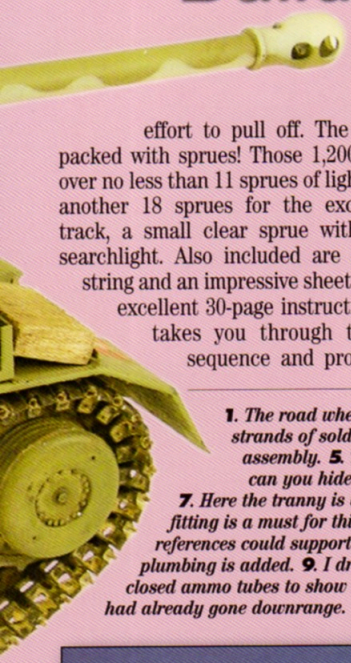
Preparing for battle

Reading a few in-the box reviews, I began to realize the daunting task the editor had presented me. I mean, 1,200 plus parts? I've built kits with a high parts count before, but not necessarily an open top AFV, but I told the editor: Fear not, I am up for the challenge.

What's in the box? In a word, a pant load, that's what! OK, that's three words, but you get the idea. This is not a kit for the novice modeler, and probably wouldn't be the best choice for your first open-top AFV. This is a complicated and extremely

oid's Arrow...

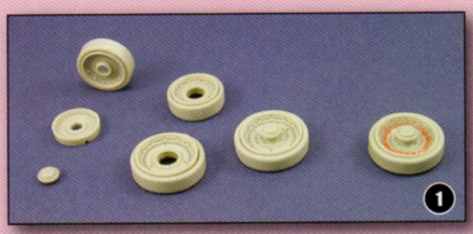
Building Bronco's beautiful Archer

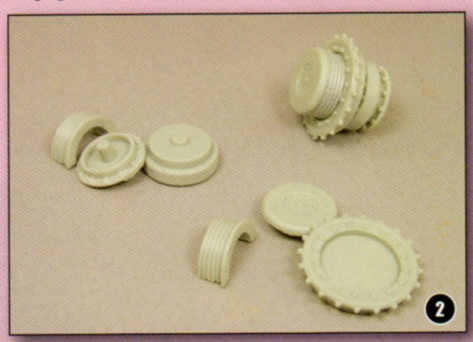


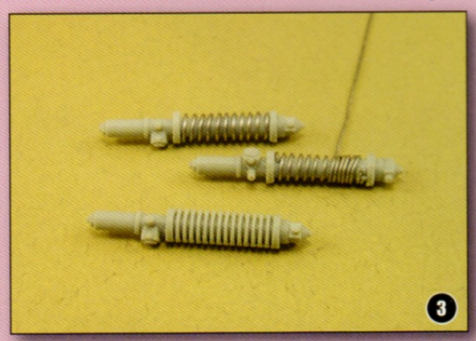
detailed kit that requires a lot of thought and effort to pull off. The box is absolutely packed with sprues! Those 1,200 parts are spread over no less than 11 sprues of light grey styrene and another 18 sprues for the excellent link-to-link track, a small clear sprue with headlamps, and searchlight. Also included are a length of nylon string and an impressive sheet of photo-etch. The excellent 30-page instruction booklet clearly takes you through the 42-step build sequence and provides color plates for the four marking options: two Polish, one Canadian and one Scottish. Additionally, the instructions allow you to build an early or a late version so careful study of the instructions is mandatory, as some marking and parts options are specific to one vehicle alone.

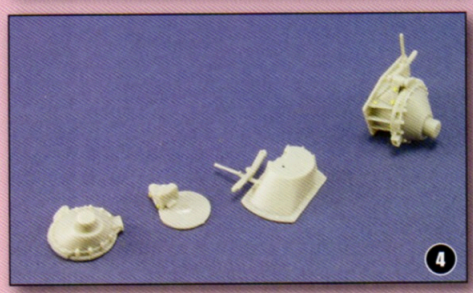
The engineering of the kit is phenomenal. The fit is exceptional. Except for a few ejector pin marks and the joint between the bogie arms (Parts B42/B43 & B41/B45 respectively), I used no filler putty at all. Everything fits together with such precision, well—I get a little misty eyed just thinking about it.

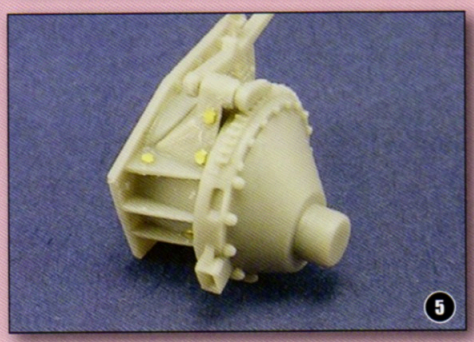
***1**. The road wheels and idlers. **2**. The final drive sprocket part break down. **3**. Wrapping two strands of solder around the spring arms created the springs. **4**. An exploded view of the idler assembly. **5**. The completed idler assembly up close. **6**. The transmission sub-assembly... how can you hide this kind of detail? **7**. Here the tranny is being test fit. Test fitting is a must for this kit. **8**. Where my references could support it, some interior plumbing is added. **9**. I drill out a few of the closed ammo tubes to show that a few rounds had already gone downrange.*

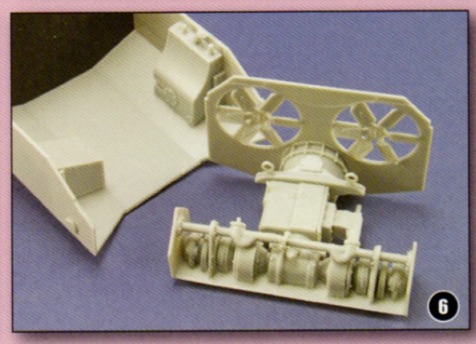


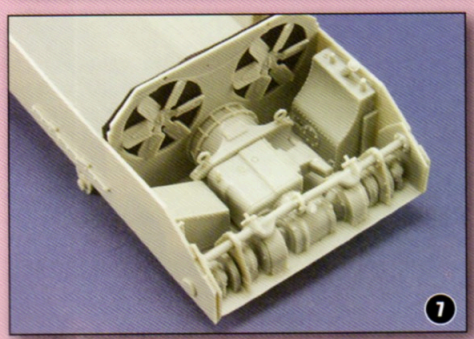


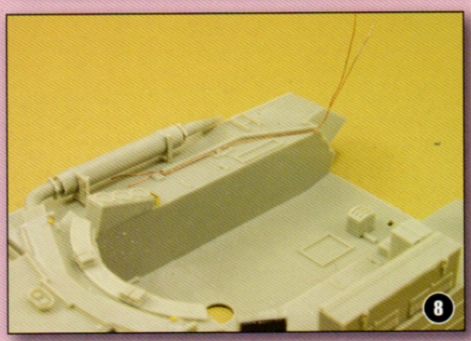


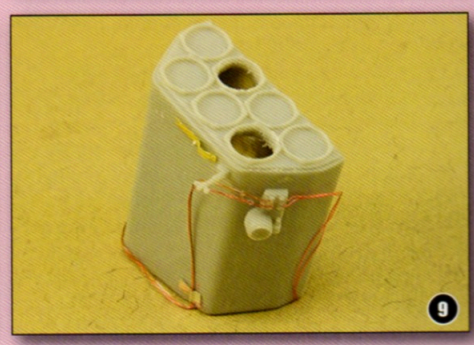








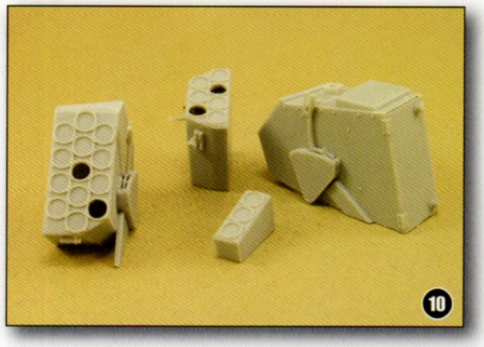
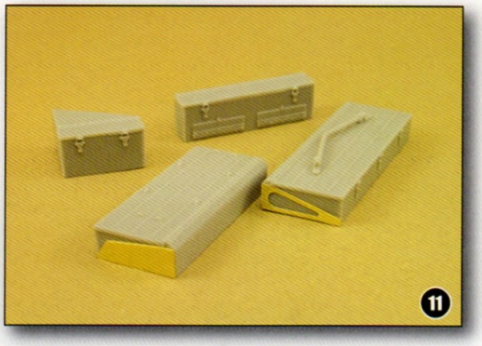
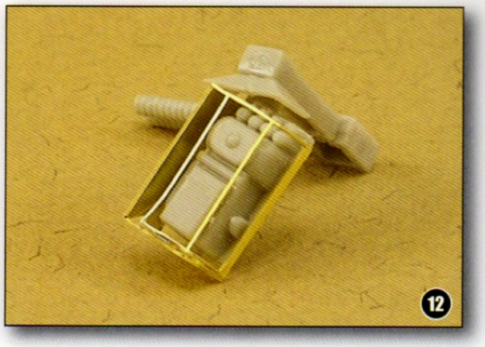
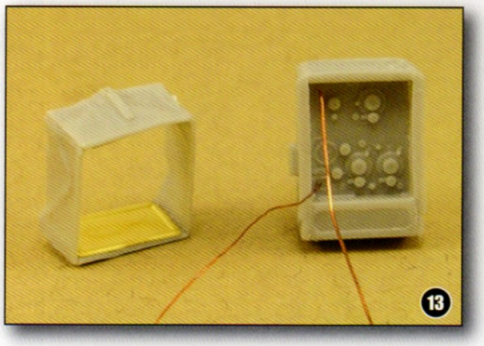
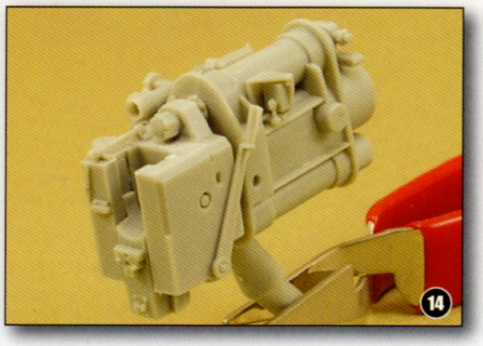
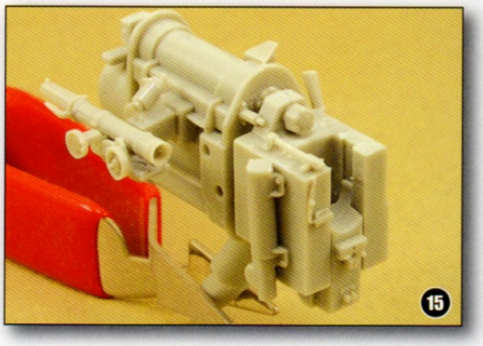
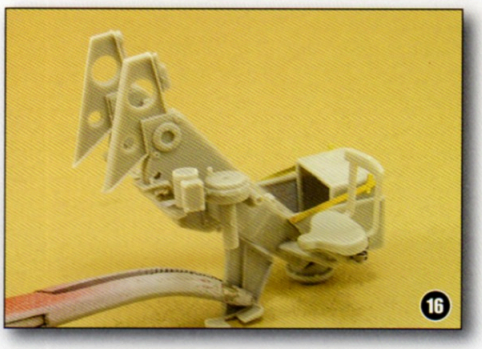
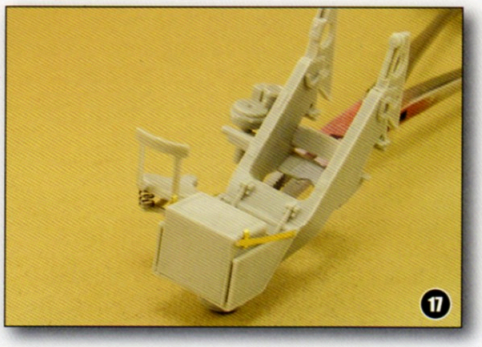
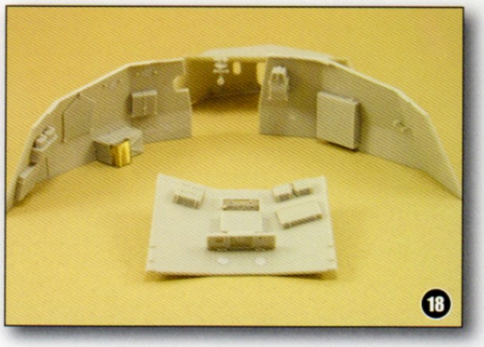
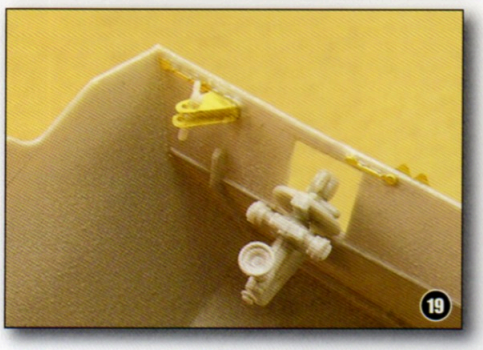
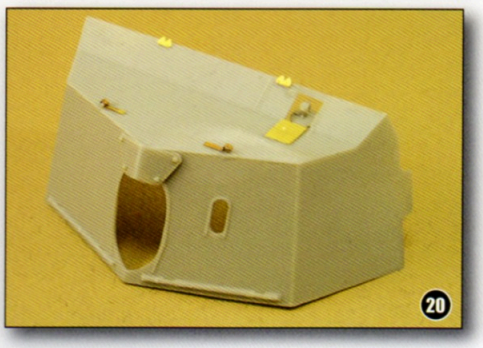
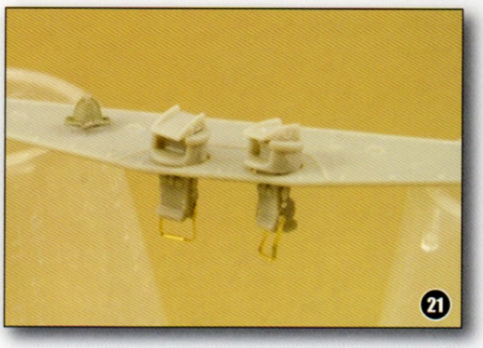




Right then mates, let's get cracking!

I usually jump around the instruction sheet during my builds. I never go in the order prescribed, and the Archer was no different. Normally, I'd say this is driven by my own impatience, but in the case of the Archer, it is a necessity. This is a kit that must be painted and weathered as it's built in order to do it justice. So to keep things moving, subassemblies need to build up that will be painted and weathered individually before they're finally assembled. If this isn't done, issues will develop with getting to components inside the cramped fighting compartment.

I begin with the lower hull and running gear. Having already built the MiniArt Valentine, I am familiar with these parts and quickly move through this sequence. I am careful not to mix up the front and back halves of the road wheels and idlers (this

10. *Interior stowage and lockers ready for the primer coat.* **11**. *Various sponson boxes awaiting painting.* **12**. *Detail of an interior part, the photo-etch part is extremely fragile.* **13**. *The radio set and canvas hood.* **14**. *The right side of the breech. Careful construction will allow it to open and close by moving the lever.* **15**. *The left side breech.* **16**. *The gunner's seat on the gun mount. I make sure the seat is parallel to the floor before final assembly.* **17**. *The spent round catcher can be built open or closed.* **18**. *The fighting compartment walls ready for paint.* **19**. *Sighting detail.* **20**. *The gun shield is cast in near scale thickness with no annoying bevel.* **21**. *The intricate seven-part periscope assemblies.*

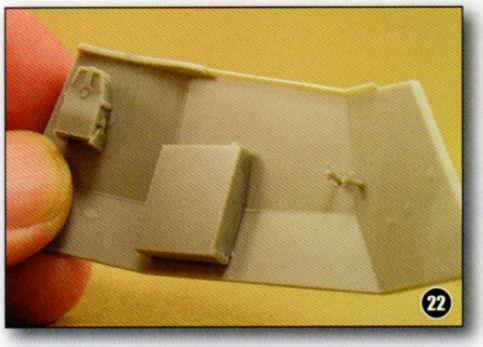
time), or the center hubs, as they all look very much alike! I then move on and build up both drive sprockets and idler assemblies. The seams around the drive sprocket (parts B24) will take a little effort with some careful sanding to get rid of.

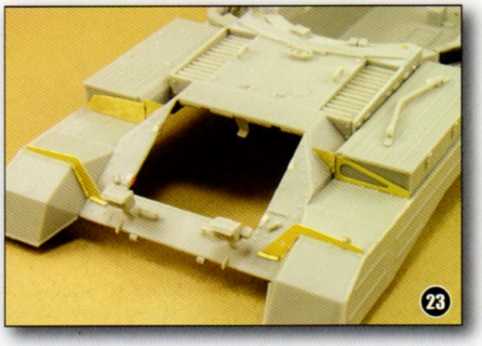
After I built the MiniArt Valentine, I got an idea to improve the look of the spring arms (part B46) on each bogie truck. First, I cut and scrape off the molded on springs with a sharp #11 blade and smooth the rough edges with a sanding stick. Next, I take two equal lengths of .022 solder and wrap them around the spring arm. Once I have completely wrapped the arm with the two strands of solder, I gently remove one strand, leaving a single, perfectly spaced spring behind. The ends of the solder are locked into place with a small drop of CA glue. I don't attach the road wheels at this point, but do add the suspension supports (Part B6) on all sides. My aim is not to attach the road wheels until they and the lower hull have been completely painted and weathered. This proves a little fiddly in the end, but works out just fine.

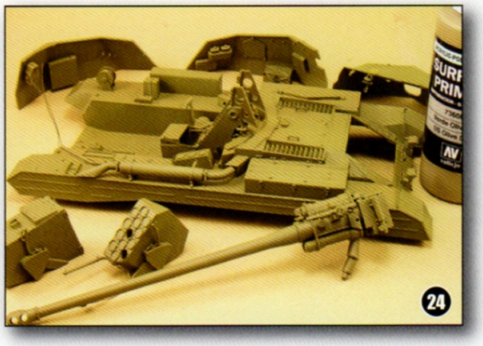
My plan is to show some of the beautiful details, like the radiators and transmission somehow, so I paint the lower hull interior walls and floor with Tamiya White, then paint and weather the transmission and other interior transmission compartment details completely before gluing them in place inside. These details are really just too nice to cover up! I also build and paint the two radiators, but set them aside until I'm ready for them. These are designed to be moveable and swing out of the way to access the transmission, so they'll be added later when I'm ready to join the upper and lower hulls. With the lower hull sub assembly done, I move on to the upper hull and the beautiful 17-pounder gun.

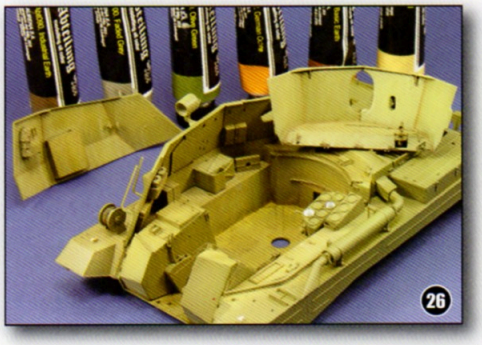
Upper hull and fighting compartment

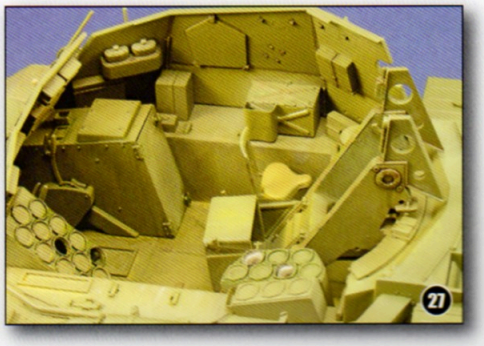
It's hard to know just where to begin, but here goes... The upper hull and fighting compartment tub are cleanly molded as a single part (A42) that drops into the lower hull. Added to the upper hull are the fighting compartment walls, a myriad of internal stores, storage boxes, bins, seats, radio, ammo, and oh, yeah—the gun. This is really where it gets fun and just a little complicated. By this I mean that I need to think about how I'm going to go about the construction sequence. What gets painted and

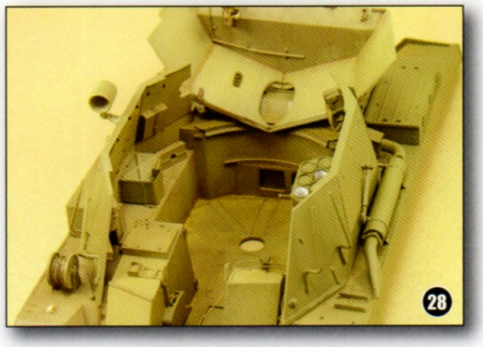


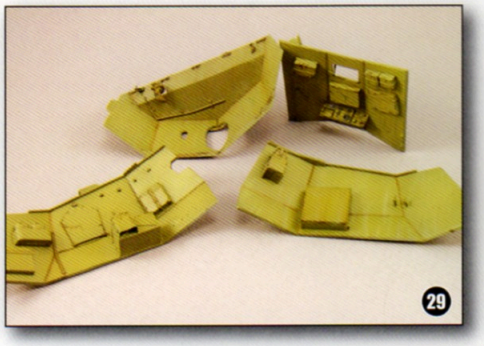


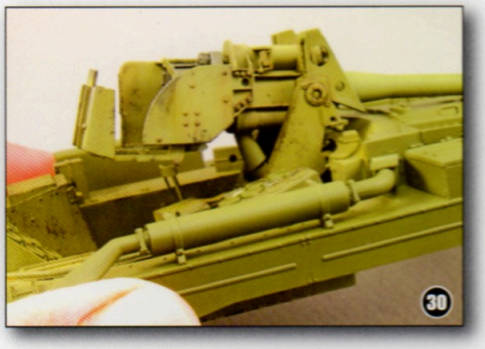


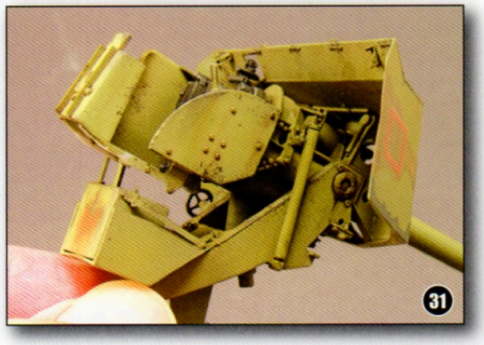


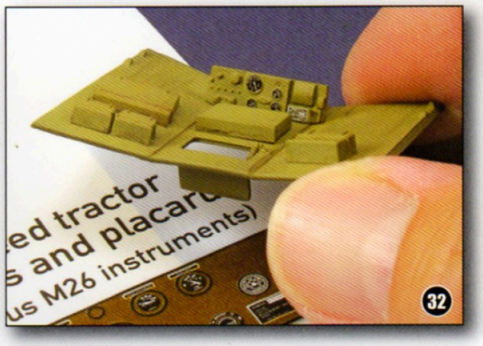


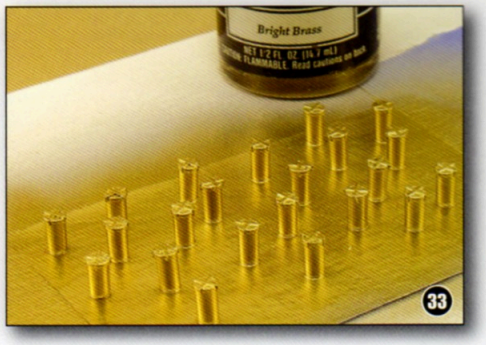












***22**. This is the eight-gallon potable water tank.* ***23**. The engine deck, before the large louvered hatches are added.* ***24**. The Vallejo OD primer in action.* ***25**. My interior colors all laid out.* ***26**. Oil paint fading of interior follows.* ***27**. An essential part of building this kit: more test fitting of interior.* ***28**. The oil faded interior ready for pigments.*

***29**. The fighting compartment walls painted and weathered.* ***30**. The painted and weathered breech.* ***31**. The final effects on the gun cradle and breech.* ***32**. Spare Archer instrument dials are harvested from their M4 HST set.* ***33**. Model Master Bright Brass is used for the Shells and later given a wash of Mig's Dark Wash.*

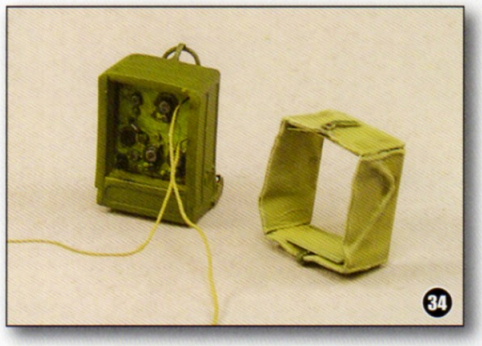
when, what can be glued in place and what shouldn't. All this thought is to ensure that the gorgeous interior gets the attention to detail it's screaming out for. I begin building up the various interior subassemblies: ammo storage containers, storage locker, seats, instrument panel, forward, aft and sidewalls, and gun breech and cradle. Obviously, this is an open top AFV, so there is a lot going on inside and all of it needs to be painted and detailed.

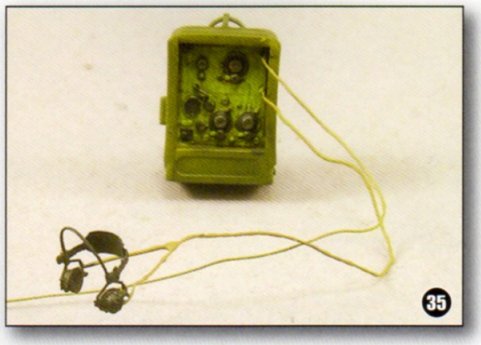
There are four ammo containers that hold a total 26 rounds of ammo. The kit only contains one full round of 17-pounder ammo and as a result, the storage tubes are molded closed. Since I wanted to impart a little more life inside the fighting compartment, I leave a few tubes empty. Using a rotary tool and a small burr bit, I opened up some of the tubes. Since each tube runs all the way to the floor of the storage container, I take small sections of a coffee straw and glue them inside the container to represent the individual tubes. There is another storage container that mounts to the right of the driver. But wait, there's more—glued to the two lockers on the left and right of the driver are the control levers the driver uses to steer the tank. The small photo-etch and plastic parts (P46 and C30) added to the aft locker (G28) are what secure a Bren MG in place, although no weapon is supplied in the kit. Again, all these must be built up and painted before installation.

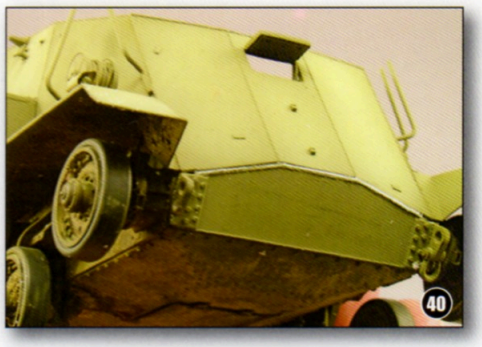
Hold on, we're still not done yet! The locker on the right side of the driver has a door that can be positioned open or closed. This locker is meant to store and additional 13 cartridges (AP or HE) for the 17-pounder, but since my references don't show how the locker is laid out, I decide to keep mine closed. The left and right side fighting compartment walls get several items added to them including canteens, first aid kit, battery boxes, the sight dial case, two canvas satchels and two Sten Mk. II sub-machine guns. The Stens are beautiful by the way, but will need to have a small hole drilled above and below the stock to make them truly accurate for a Mk II.

Can you hear me now?

The interior also gets another gem-like sub assembly in the form of the Wireless Set No. 18. This is another multi part sub assembly of 18 plastic and







***34**. Close up of radio and cover. **35**. The delicate radio and headset painted. My reference material shows a light green face with black dials. **36**. The pile of subassemblies. **37**. The beautiful four-part searchlight. I replace the clear plastic lens with an MV lens after everything is painted and weathered. **38**. Thin solder is used for the headlight wiring instead of the suggested stretched sprue. **39**. About a millimeter of the driver's floor is ground away to permit the glacis plate to sit flush. **40**. The glacis weld seams are improved with thin styrene rod softened with glue and textured with a number 11 blade. **41**. The final effect on the lower hull after the pigments are streaked and blended and the AK and Mig washes are applied. **42**. My own concoction of SCC 15 mixed with Lifecolor OD Paints. **43**. The disruptive Vallejo Black Grey pattern. **44**. Mig and AK products are used for the washes and streaks. **45**. Pin wash and rust. **46**. Rusting the muffler. **47**. Pigment dusting. **48**. A close up showing my favorite method for adding chips and scratches. Restraint is the key to pulling off realistic chips and scratches. **49**. No painting needed. The Friul track after soaking in Blacken-it for a few minutes. **50**. The tarp is made using Apoxie sculpt rolled thin, cut to shape and worked into the details.*

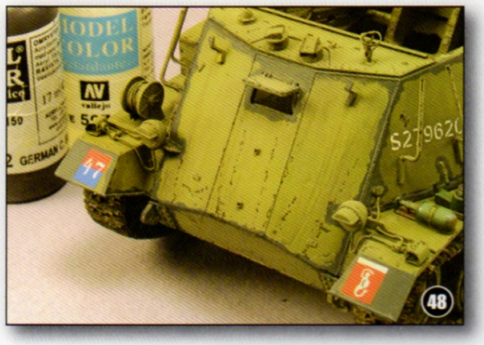
photo-etch parts. Patience is in order here, as some of the photo-etch parts are small but get even smaller when it comes to building the six-part headphones! Speaking of the headphones, the photo-etched head pad is incorrectly numbered. It should be P61, not P59. A word of caution: stay away from the espresso, Red Bull, or 5-Hour Energy when you build the headphones. The photo-etch parts are very thin and can easily be distorted. The instructions call for the use stretched sprue for the wiring on the headphones and microphone, but I choose to use fine copper wire I get from some scrap wire I have in the spares box. Bronco provides the builder with the choice to have the canvas cover open or closed. I choose to leave it open, but that means some detail painting later. I finish the radio set, headphones and microphone and place everything aside until I'm ready to paint.

Into the breech...

The breech for the 17-pounder is a thing of beauty. Bronco has, in my opinion, set a new standard in detail with this baby. The breech is made up of no less than 21 plastic and photo-etch parts and some of these are absolutely tiny. If built carefully, the breech will open and close when the breech handle is moved! How cool is that? I'm careful to ensure that parts C62 and C92 line up correctly so the breech will open and close as it should. (See step #30, page 18 of the instructions)

I build up the breech per the instructions, but instead of adding the plastic barrel, I replace it with a part from Aber. This isn't really necessary, as the kit's barrel is very nice, but the Aber barrel has more fine detail around the muzzle. The Aber barrel also adds a lot of weight to the entire assembly. This causes me a few problems down range when I finally glue the entire gun assembly onto the hull.

Now it's time to move down a little and build up the gun cradle. This little sub-assembly also has some wonderful details, including two tiny springs below the gunner's seat. The placement of the support arm for the gunner's seat (C65) is a little difficult to discern from the instructions. There is a location lug that inserts into a slot in the left side of the cradle. However, when I look at the seat, it seems to sit at a rather extreme angle. I adjust the position of the support arm until the seat is level with the floor when the cradle is places into position in the floor. I am a little distracted during the assembly of the cradle and don't see where the cradle pivot (part C77) is trapped between the right and left side of the lower cradle (see page 16 on the instructions). I am careful of how I apply cement here, so that capillary action doesn't draw the cement into the ball and socket joint created with parts C77 and C32. The rest of the cradle builds up very nicely. Bronco has molded the parts with a beveled edge that meets along a weld seam to produce a natural, clean joint. The spent shell catcher can be assembled open or closed. Small photo-etch arms are provided to show it in either position. I choose to have the catcher closed to show more of the floor; it's cramped enough as it is! Once everything is glued up, I place it all aside to cure. I now move on to work on the gun shield. The gun shield is molded convincingly thin. Bronco's molded on tie downs are among the best I've ever seen in plastic and have true dimension including an undercut. For this reason (and because my "brick-hands" had trouble getting them in position) I decide not to replace any of the tie downs on the rest of the tank. The sighting mechanism is also added to the left side of the shield, as well as more of those tiny photo-etch parts. I finish up the shield, but I don't glue the shield to the gun cradle at this point. I add it to the growing pile of sub assemblies that await priming and painting. I want to make sure I can get to everything that will need detail



painting. Like I've said earlier, there's really no way to paint all the glorious details if they are not painted before final assembly.

Are we there yet?

Moving on to the other areas of the upper hull, I build up the various stowage boxes that mount to the fenders, the smoke dischargers and the louvered doors that cover the transmission and engine compartment. I don't glue the stowage boxes on just yet and I leave one of the hinged louvered doors off. This is so that I can depict it open to reveal some of that great detail otherwise hidden inside. The exhaust and muffler come next. This is another great feature of the kit. The muffler assembly is cemented in place so it won't interfere later when I glue the fighting compartment sidewalls in place. You'll notice in some of the photos that the sand shields are shown glued to the fenders. These had been tacked on before I'd finally decided on which vehicle to model. I removed them later after I got my reference material and made my final decision on which marking option to go with. The sand shields can be glued to the fenders but the running gear will still need to be finished, and the tracks painted and weathered first.

What a pile!

I mentioned a pile of sub-assemblies, and that's exactly what I have. It's now time to prime these in order to move on with the final construction. This pile includes the gun assembly, all the interior walls, bins, boxes, etc., as well as the upper and lower hull halves, and the various other items that are attached to the hull later, such as the jack and fire extinguisher. All the interior surfaces must be primed, painted, and weathered before they can be glued in place. I'd recently read online about Vallejo's new line of colored primers and decide to give them a try. They're acrylic and get sprayed with an airbrush, require no thinning and dry quickly with a very nice satin finish. They are great!

Green with envy—lets shoot some paint!

Now is when the fun really begins with painting and later weathering our little backwards tank killer. Starting with Vallejo U.S. Olive Drab primer, I lay down a nice, even coat to all the various sub-assemblies and parts. The primer shoots cleanly thought my Harder Steinbeck airbrush at about 18 psi. The Bronco instructions and markings offer no less than four schemes; three of which are olive green and one light brown scheme with OD camo bands. I choose option two, but the color plates do not seem to match the excellent large black and white photos of the same vehicle in the Model Centrum book. The photographs show an OD vehicle with what appears to be black or very dark grey disruptive markings that have been hand painted. A color plate of this tank on the last page of the Model Centrum book proves to be a very helpful painting guide. Now that I know the paint scheme I'll be using, I go back to the pile.

With the primer dry I move on to the base color coat. Most WWII British vehicles in the ETO were painted SCC15, a slightly off shade of US OD. I choose to custom mix my own shade of SCC 15 using three Life Color OD shades including Olive Drab, UA 222); Olive Drab, UA 219) and Olive Drab, US 319. To warm up the color, I add a few drops of Grunbraun, UA 203 with each successive light coat. Since I began using Life Color paints a year ago I've found they perform better when thinned with the Life Color brand thinner. I have used distilled water before but did not get the consistent results I achieve now using the Life Color thinner. It's expensive so I have to decide if it's worth the investment. I figure that this was one model I don't want to screw up with a bad paintjob.

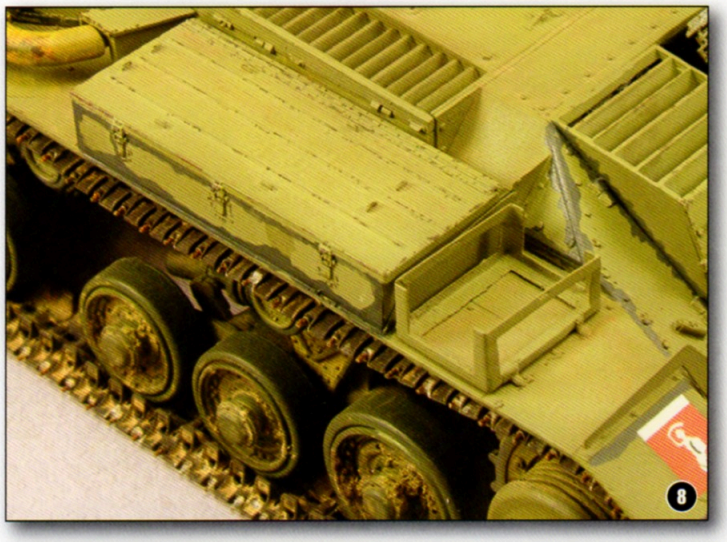
No regrets… I apply coat of my Life Color mixture to everything in my pile of sub-assemblies. Next, I hit everything with a blow dryer to hasten the drying time before applying a couple more coats, each with a few more drops of grunbraun. Once satisfied with the results, I hit it one last time with the blow dryer.

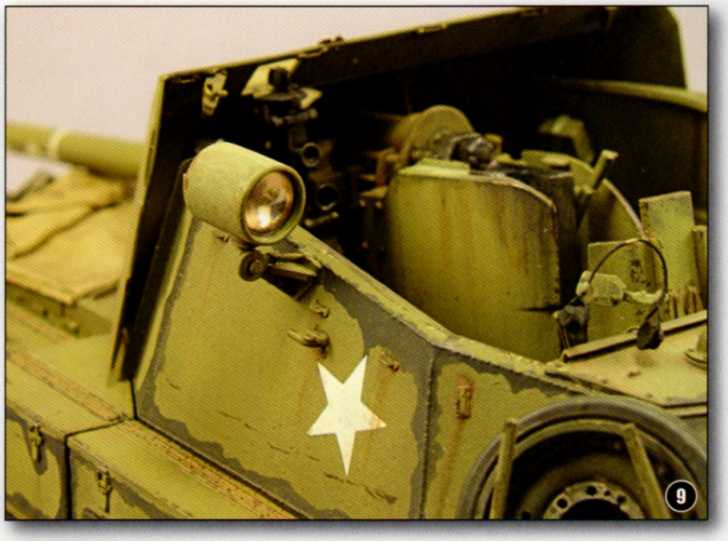
The time has come for all that delicious interior detail painting I mentioned earlier. For the instrument dials I decide I need a little "sumpin'-sumpin'." I find a few Archer Dry Transfer dials and placards left over from my M4 High Speed Tractor that do the trick. These are applied as water slide decals on Archer's decal film and left to dry. While I wait for them to dry, I move on to the rest of the interior parts. I do some basic weathering effects with oil paints. I apply tiny dots using several shades of oils from the Mig Abteilung series of paints. These are then blended into the base coat with a round brush dampened with Mig Thinner for Washes. I repeat this process all around the interior walls as well as the tub of the fighting compartment and the gun cradle. Eventually, I treat the instrument panel in the same fashion to fade out the OD. All this now is now left for at least 24 hours for the oils to dry thoroughly.

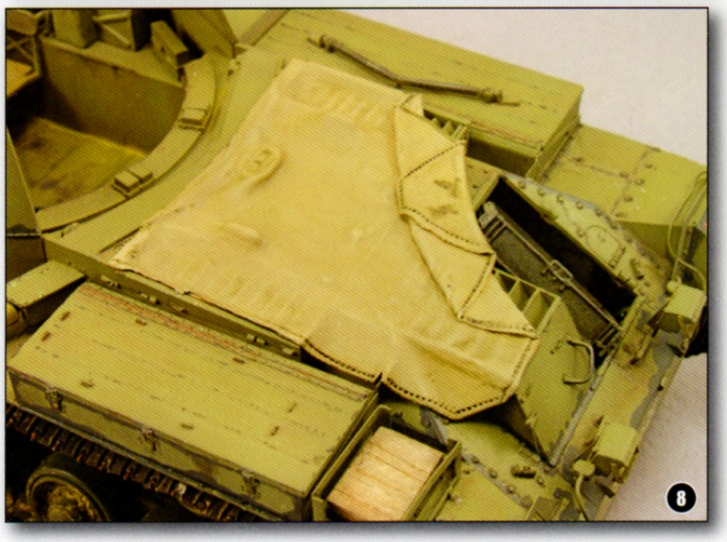
Weathering: day-two

With the oil paint fading effects now dry, I can add a few detail and pin washes to the interior before things are ready to button up. Again, I reach for the Mig products that I've slowly acquired over the last few years; specifically their Neutral and Dark Wash. These are applied around raised details to provide some definition. Finally, I use Mig's Oil and Grease Mixture around the trunnions, and carefully streak the effect down the cradle sides.

While the fighting compartment walls are drying, I turn to the lower hull and begin doing some







***51.** A close up of the chips on the stowage box. The chipping is done with a brush and sponges.* ***52.** The completed searchlight with its new MV lens.* ***53.** Finished canvas tarp.* ***54.** The stowage comes from my spares box. In this case it's a nice piece from Blast.*

pigment effects. Using three colors from the "Models Makerz" line including mustard yellow, dark ash and grey ash, I mix up a yellowish-grey mixture that I apply dry to the lower hull using an old round paintbrush. The pigments are then set in place with Tamiya Thinner, X-20A. The trick is to wet a clean round brush with the thinner and make gentle contact near the pigments and let capillary action pull the thinner from the brush into the pigments. I used the X-20 instead of the Mig Pigment Fixer so that I can manipulate the pigments once nearly dry. This is accomplished with a short flat brush and a gentle downward motion. Once I am happy with the effect I am looking for, I turn to the Mig Fixer to set them in place permanently before moving on to the next, thicker layer of pigments. For the thicker layer, I use four colors from the Mig Pigment range including Russian Earth, Europe Dust, Industrial City and Dry Mud. These are mixed into a thin paste with a little white glue and dabbed randomly around areas where mud would have collected and dried.

Once the pigments are dry, I can move to the last phase of weathering on the lower hull; detail washes. Again, I used a couple colors from Mig line and a couple from the new AK Interactive line. These washes include Mig's brown wash and the oil and grease mixture along with AK's Streaking Grime Dark and Slimy Green Dark to impart not only a few tonal shifts, but depict a buildup of grease in the dried mud and caked-on dirt. I think (I hope) the effect looks quite realistic when complete.

With the lower hull now done, it is time to finally put all the pieces and parts together. I begin by gluing the upper hull and lower hulls and then test fit the fighting compartment walls and the forward glacis piece. The fit everywhere is exceptional everywhere, except the glacis. I discover that the edge of the driver's compartment floor is sticking out just a bit and prevents the glacis from sitting flush. I grind off a about a millimeter, test fitting repeatedly until I can get the glacis to fit correctly. I accentuate the weld seam along that joint using lengths of styrene rod. The styrene is softened with some Tamiya Extra Thin Cement and textured with a #11 blade. Now everything is left to set up overnight. Last, I use the remaining SSC 15 mixture to hit the exterior surfaces of the upper hull and fighting compartment.

Now are we there yet? Getting' close...

Ok, with all the interior surfaces painted in overall SSC 15, it is time to add the black disruptive pattern of my chosen scheme. For its superior brush painting characteristics, I use Vallejo Model Air Black Grey, 71056. I apply this with a 0-brush straight from the bottle using the photographs and the color plate in the Model Centrum book as my guide. I quickly make my way around the tank with the black gray and hit the tank with the blow dryer again. Once this has dried, I mix up some Vallejo satin varnish in my airbrush and gave the entire tank a coat to prepare the surface for the exterior weathering process and to create a nice, smooth surface for the decals.

The kit-supplied decals are quite nice. They are very thin and respond well to softening agents. The allied stars are Archer Transfers that I burnish onto the exterior walls. The stars are correctly positioned, in case anyone is wondering. I love these transfers because they give that "painted on" look and can be distressed convincingly with a needle or a #11 blade.

The weathering process for the exterior surfaces is basically the same as that used for the interior with a few extra steps thrown in for good measure. First, I spray random panels with Mig's deep green wash to create tonal variation in the OD green base. Next a filter of "Brown for Dark Green" from the Mig pre-mixed line of filters is applied and set aside to dry overnight. I use oil paint fading again to distress and fade the major surface areas. Next, I begin laying in some detail washes around the raised details and the various fittings. Last, pigments are applied to the upper surfaces of the hull, rear end and glacis. The colors used were left over Model Makerz pigments from the work done earlier on the lower hull. These pigments performed extremely well and are less expensive than the major brands we've all come to know. Finally, a misting of Mig's Pigment Fixer is applied over the entire tank to lock down the pigments for good. Now only a few steps remain to complete the painting and weathering: chips and scratches.

As in my previous articles, I use Vallejo Model

Color German Camo Black-Brown for my chips. For me this is the perfect color to represent a scratch or chip in the vehicle's paint. Applying this can be a tedious process, but can be very rewarding if done with restraint. I keep this in mind as I work my way around the vehicle. My application methods include using a small sponge to dab on the chips and painting them on with a fine pointed Windsor Newton Series 7 brush. Since no two scratches or chips are alike in the real world, my scale scratches must also be random and appear to have occurred naturally. I have found the process of applying these effects can be made a little easier by adding some Vallejo "Slo-dry" to the color. This helps the paint flow a little easier off the brush and keeps the paint from drying too quickly. Deeper scratches are accomplished with a brush or a toothpick. Along the edge of a deep scratch or chip, I typically lay down a very fine line of lighter base color to impart the illusion of depth. A tiny dab of rust colored oil paint inside the scratch and streaked down with a thinner dampened flat brush completes the effect. Whew, that took a while, huh? Now all that is left to add is the track, individual track that is. "The horror…"

Bathing your links

The track supplied in the kit is superb. It's beautifully molded and includes individual casting numbers on the face of each link. So of course, I didn't use them. Instead, I use a set of Friul tracks. The main reason I choose to go with the Friuls over the Bronco track is their durability and their weight. I had used this track on the MiniArt Valentine and I found them to be a little fragile. There is something about the weight of metal track and its ability to produce realistic track sag. Plus, they're a snap to finish! The only down side is a little clean up and perhaps drilling out a few hundred holes, but let's not focus on the negative, shall we?

Before I assemble each track run, I soak the links in white vinegar to remove the mold release agent that adheres to the white metal. Next, I assemble each run using the wire provided in the set. I then repeat the vinegar bath and apply a vigorous scrubbing with a toothbrush to get it into all the nooks and crannies of each link. Once dry, I get out an old food container that now serves as my "Blacken-it bathtub." When each run is completely dry, I immerse them in the Blacken-it. Keeping an eye on the clock, I soak them in the solution for about four minutes. The oxidation process takes place quickly and leaving the links in too long can be disastrous. The idea is to let the Blacken-it age the track to a convincing brown/black color. Despite all the scrubbing, some silver may still appear on some links and a little more scrubbing in the Blacken-it solution usually solves the problem. Once I am satisfied with the process, I take the runs out and allow them to dry completely on a sheet of paper towel.

Are we there yet?

Yes, thank God! We've arrived at our finished Archer. Despite the length of this article, let me assure you the building took a lot longer!

Seriously, this kit is my pick for among the best of 2011. In fact, it's probably among the most highly detailed injection plastic kits I've ever built. If you have it—build it! If you haven't got one, get one and do this kit justice. All it takes is your time and patience glue, paint and skills… The rest is in the box!

—Tom Jett

MMiR RECCE

Bronco CB-35074: 17-pounder Self-Propelled Gun Archer. Kit graciously provided by the U.S. distribution agent, Dragon USA. Suggested retail price, $69.95.

Aber Sherman VC Firefly, 17 Pdr Gun Barrel. Item number AB 35 L-57. Suggested retail price $24.00.

Friulmodellismo Valentine Track, Late. Item number ATL-32, Suggested retail price $32.00.

Model Makerz pigments: each ½ oz jar, Suggested retail price $5.00. www.modelmakerz.net

References

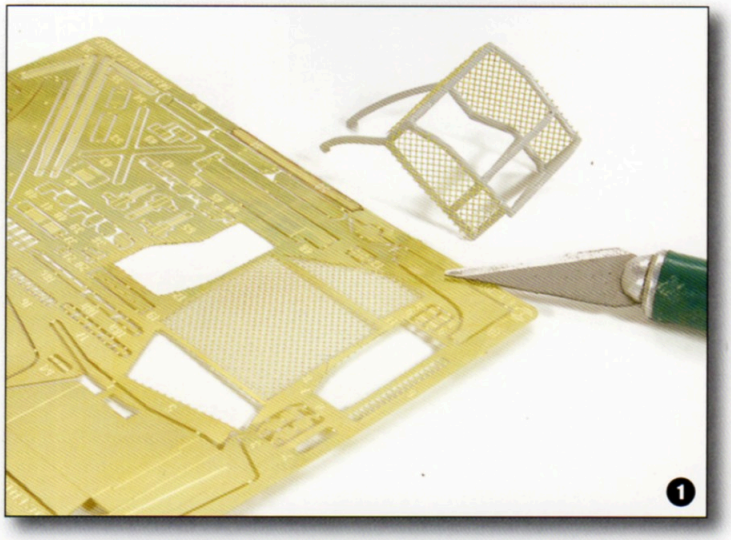
British Infantry Tank MK III, Valentine, Part 2, by Dick Taylor, Model Centrum Progress Books.

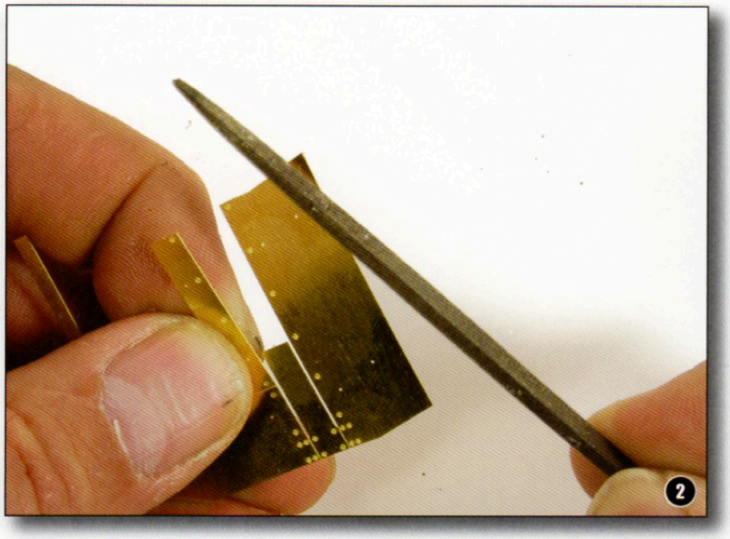
US AND THEM:

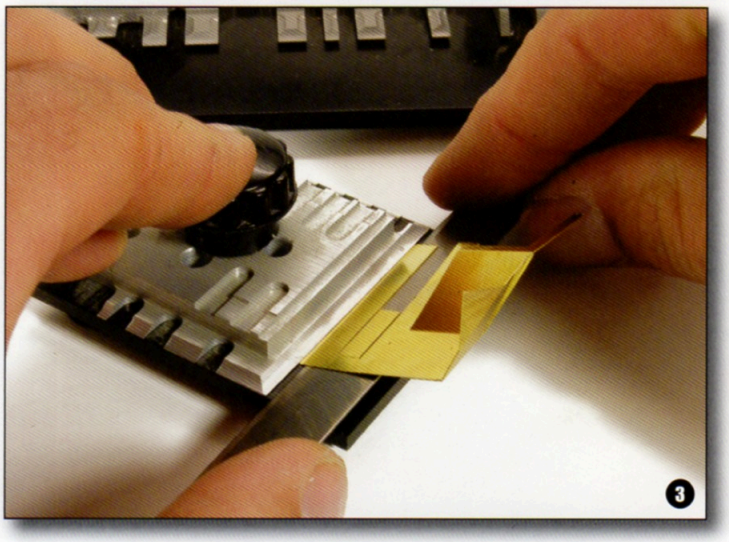
The Basics of Soldering

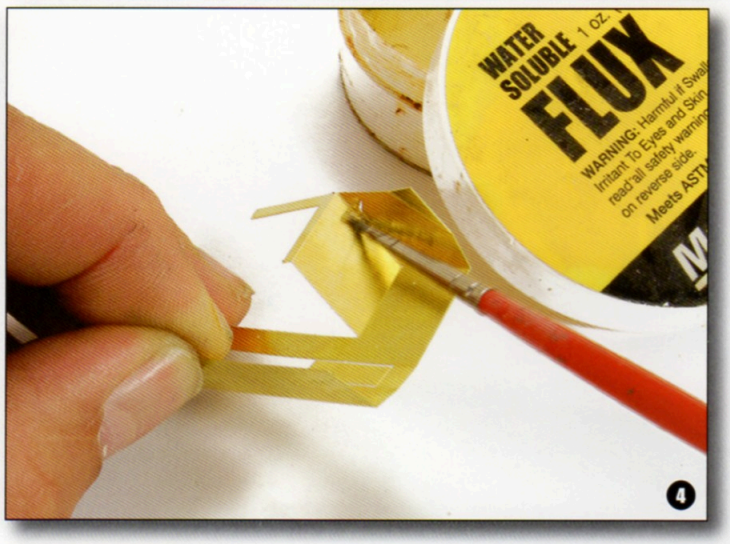
When it comes to using photo-etch, even a quick survey of the landscape indicates that there seems to be two distinct camps among modelers. For some, working with photo-etch is the scourge of the modeling world, while others seem to embrace the delicate brass bits. Most, however, seem to fall somewhere in between the extremes; a sort of reluctant acceptance that at some point you will be using brass on your own kit. In my case, although I could see the potential of using the brass accessories, I was in the camp of reluctant user. I could not seem to get over some of the technical hurdles.

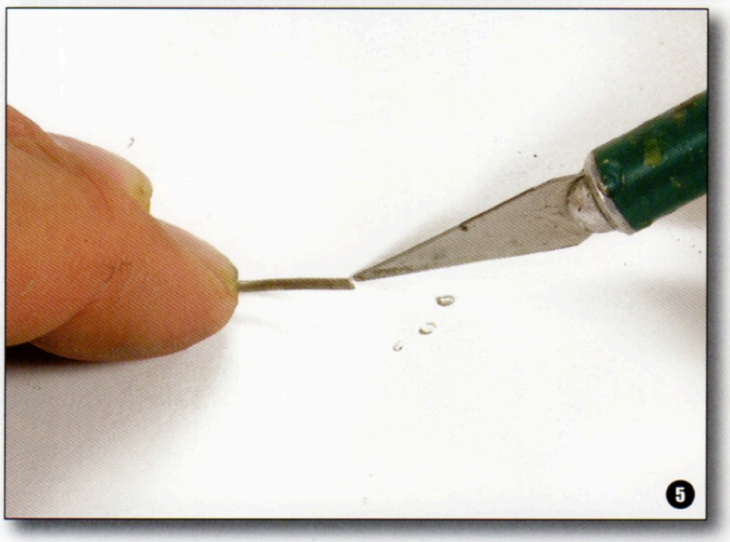
My first experiences using photo-etch were quite timid, limited to with a few small items such as clasps, brackets, miscellaneous screens, or a small box. Over time, the bending and folding became easier for me and I could feel my confidence slowly increasing. Soon, without hesitancy I was able to make simple folds and bends and even glue together a few minor photo-etch assemblies. As I progressed, moving onto more complex items, I quickly came to realize that relying on CA glue to hold together even the smallest photo-etch parts has its limitations. These shortcomings would certainly make it more difficult or even prohibit me from taking my work to the next level and tackling some of the more complex projects available to modelers. It became apparent that if I were to truly embrace and integrate the potential of photo-etch into my projects I would need to learn how to come to grips with the soldering iron. Can you sense my apprehension? In my mind, sol-

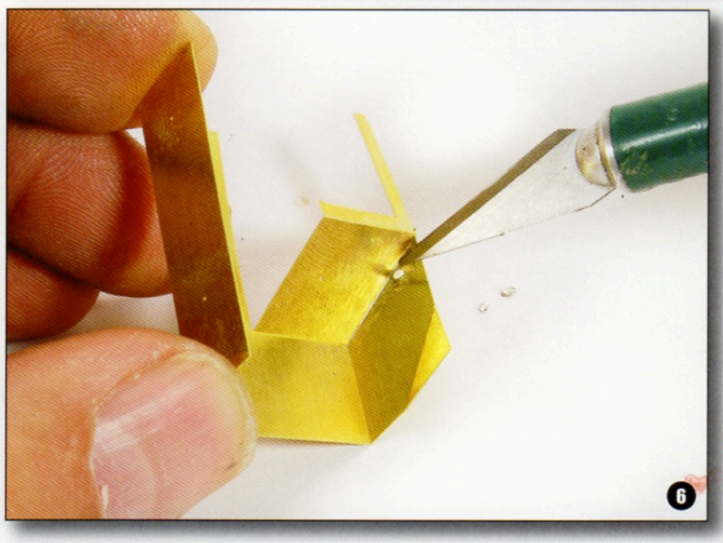








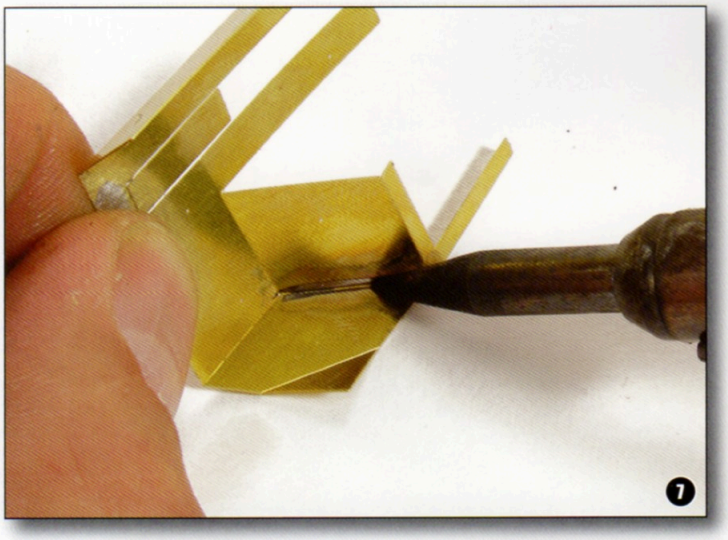


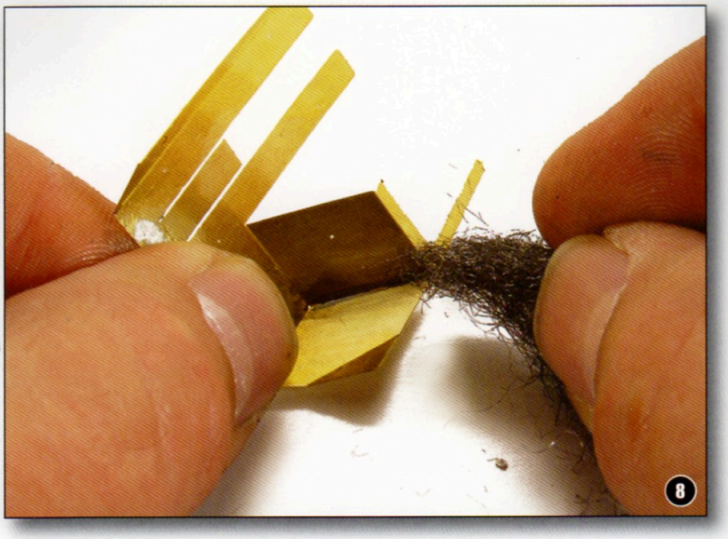


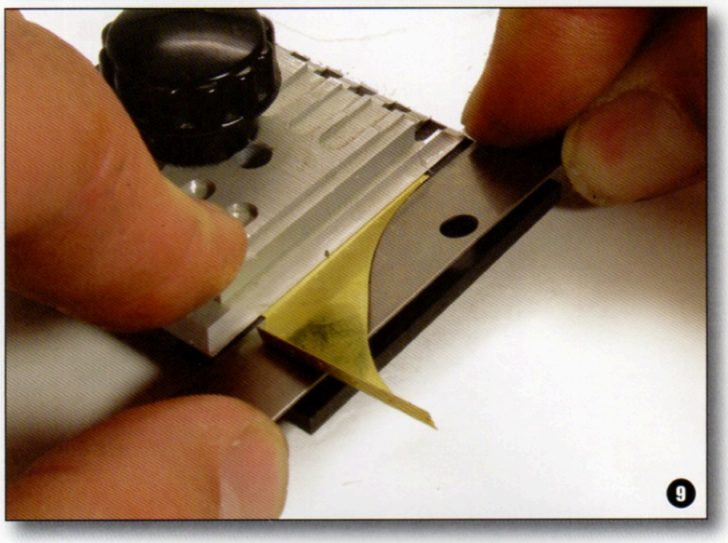
dering photo-etch is certainly the most advanced technique reserved only for the selected few who had traveled to the crossroads of advanced skills.

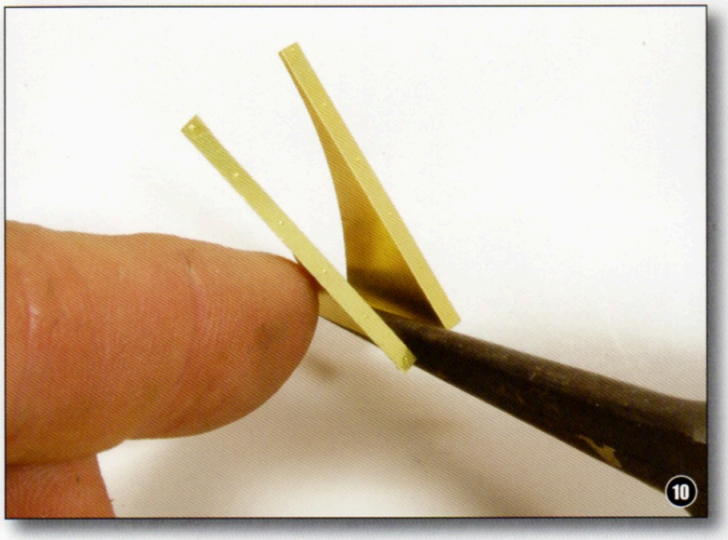
With most of my modeling, I learn through trial and error; working with photo-etch and the use of soldering being no exception. There is a variety of quality soldering products available to the modeler. Some have a few more features than others but they all share the same principal which is to provide sufficient heat in order to melt the solder resulting in a strong, durable join between two metal pieces.

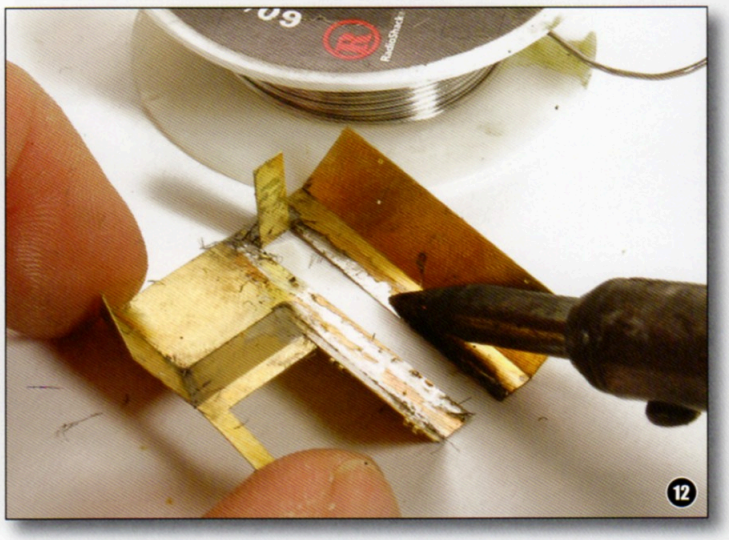
***1.** As in the case with this spent shell basket, even with projects that I will be using solder; there are plenty of times when CA glue will still be used. I generally use a sharp blade to remove the photo-etch parts from their frets. **2.** Removing the small attachment burs is easily accomplished by using a small file. **3.** Using a good quality bending tool such as the Small Shop's Hold-n-Fold makes working with photo-etch much cleaner and asier. Sharp, precise bends are important for creating quality assemblies. **4.** Getting ready to solder. Using a small brush, Flux is applied only to those areas where I intend to join the parts with solder. In this case, I am lightly brushing the Flux on the two edges of the shield assembly in order to create a strong corner angle. **5.** "A little goes a long way," when it comes to soldering. In order to limit the amount of solder (and mess), I cut small chips of solder from my spool. **6.** The small solder chips are placed onto the Fluxed surfaces; the stickiness of the Flux will hold them in place.*











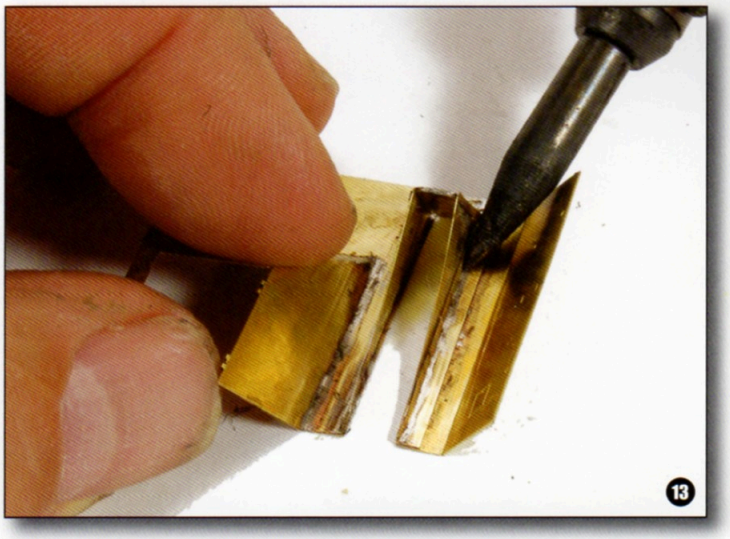
My tools are simple and basic: an inexpensive 40-watt iron, solder, flux, pliers, tweezers, single edge razor blades, sand paper, steel wool and a Small Shop folding tool.

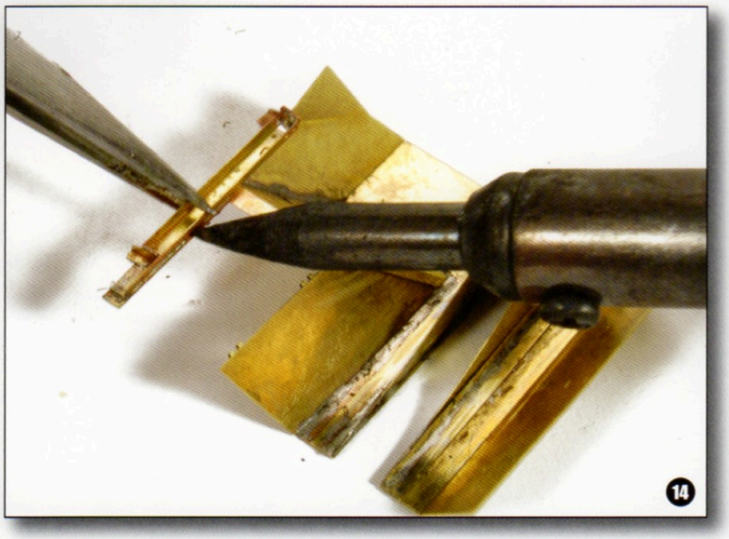
Just the facts...

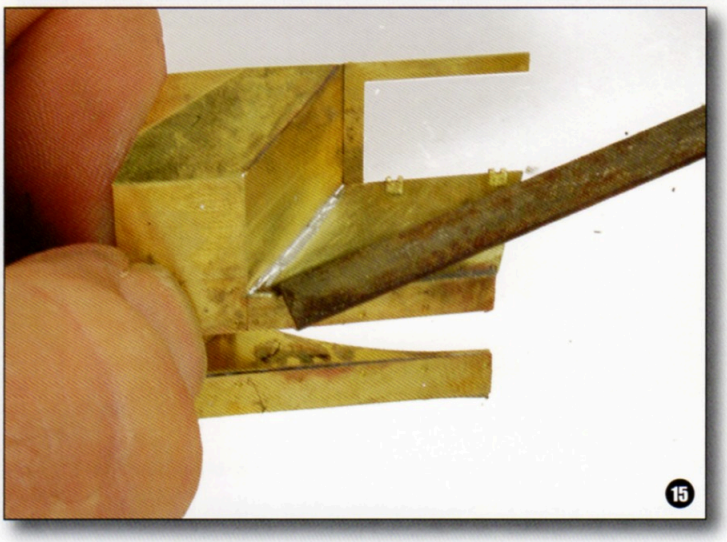
Before we get to the discussion, let's review some of the terms and techniques that are used when soldering:

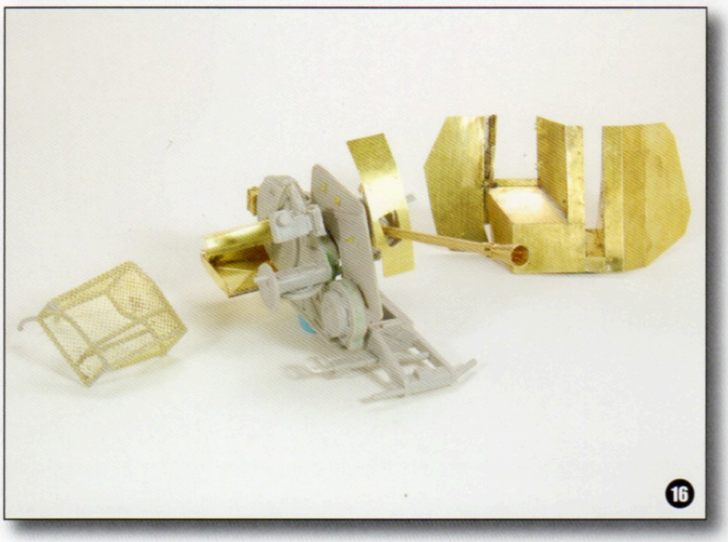
Flux. In soldering, flux serves a threefold purpose: it removes oxidation from the surfaces to be soldered, it seals out air preventing further oxidation, and improves the viscosity of the liquid solder. Basically, wherever you place the flux is where the solder will melt. We can use this to our advantage to create nice, clean joints.

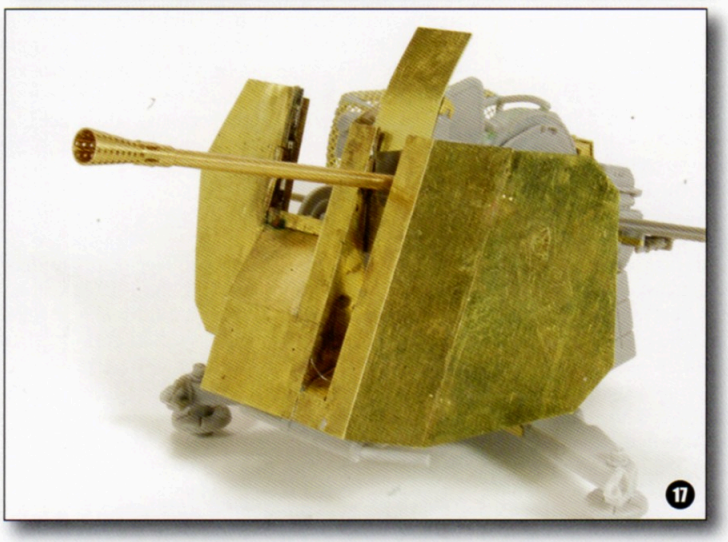
***7.** The tip of the soldering iron is touched to the brass surface. The Flux begins to sizzle; the solder liquefies and then is spread using the tip of the iron.*
***8.** Any excess solder is easily sanded smooth using steel wool. Limiting excess solder and keeping your joints clean is important for achieving a nice looking result.* ***9.** The bending process continues as more parts are readied for assembly.* ***10.** In some cases a simple pair of pliers is the best tool for the job. These flat nosed pliers are the perfect width to make this bend.* ***11.** Tinning parts is an important technique for attaching brass to brass. Here, one side of an*

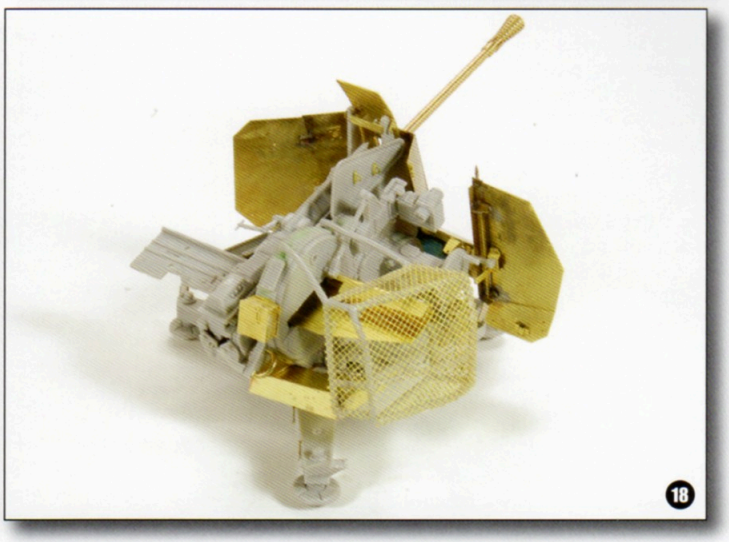












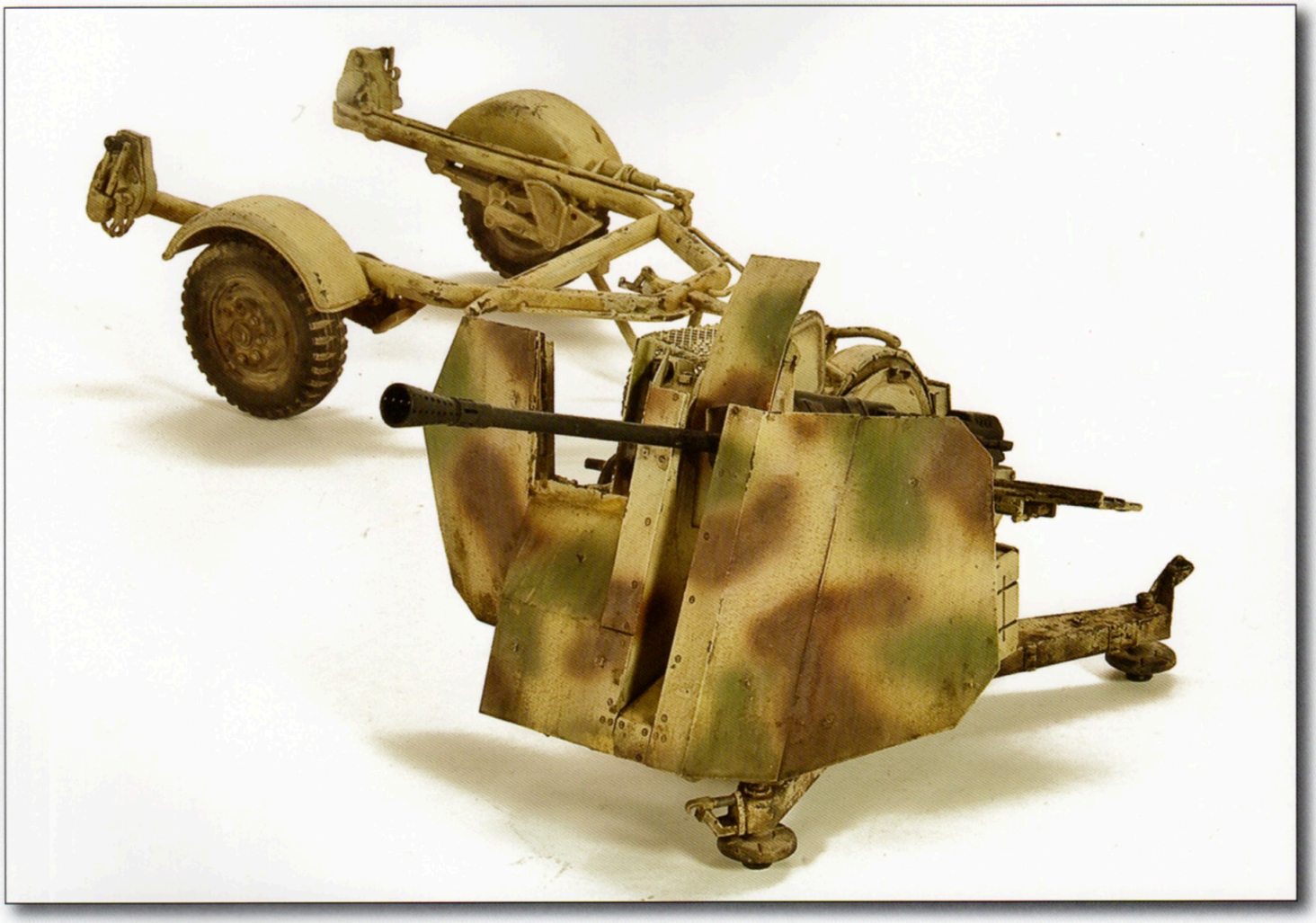
assembly is readied for assembly by brushing them with Flux and solder chips are melted over the surfaces. **12 - 14.** *Flux is applied to the opposite part where the brackets are to be placed. Then, the Tinned parts are placed solder side down onto the fluxed surface. The heat from the soldering iron will pass through the thin brass part and liquefy the solder on the underside, attaching the parts.* **15.** *A file is used to clean up excess solder.* **16 - 18.** *A few photographs of the Flak 43 with all of the shiny parts attached.*

Solder. Easy to find at most electronic, hardware and home improvement stores it is the material used to join two metallic surfaces together. In this article I use 60-40 rosin core solder.

Tinning. The process of "pre" soldering the surfaces before making the actual joint.

Annealing. A heat treatment that alters the microstructure of a material causing changes in properties such as strength and hardness. This technique is especially helpful when used to soften brass for bending.

Generally, the first step in soldering is to TIN the parts that are used. I begin by applying a light coat of flux to the surfaces that I wish to solder. Flux is a won-



derful tool as it basically dictates where the solder will stick to your photo-etches pieces. I like to use a small brush to apply the Flux only to the area(s) where the solder will flow. Next, in homage to the "less is more" philosophy I cut small chips of solder with my knife and place the chips directly onto the Flux. The last step in the process is to apply heat to the area by touching the tip of the soldering iron into the Flux near the solder chips. Soon, I hear the reassuring sizzling sound as the Flux begins to bubble. After a few moments the surface temperature reaches a sufficient point where the small chip of solder will liquefy. Then, keeping the soldering tip in contact with the liquefied solder, I simply spread the solder over the pre-fluxed area. This is the process of Tinning.

When it comes time to join the photo-etch parts, I simply re-apply a little flux over the Tinned areas of each piece, and then holding the parts together (usually with tweezers), I reapply heat to the area. The flux will sizzle as the solder re-liquefies between the brass parts. Removing the heat stops the process and the result is a strong, durable bond. Afterward, a simple cleaning of the area may be required if the solder has crept outward from between the parts. A light sanding with fine grit paper and/or steel wool can accomplish this.

For demonstration purposes I am using the Trumpeter Flak 43 base kit along with the E.T. Model photo-etch upgrade set. Because of the complex bends and size, the large gun shield provides a perfect example of the type of assembly that would be difficult to achieve using just CA glue alone.

This is my first experience with using E.T. Model products and I am very pleased with the entire package; the photo-etch is well crafted while the instructions are clear and easy to follow.

I love the small of burning...

And there you have it, soldering in a few easy steps. As with any modeling technique better results will occur with practice and experience. Rather than learn on your nice, new shiny kit parts, use the extra bits from used photo-etch frets and practice. In fact, the scraps are great sources for material to practice every aspect of your photo-etched skills, from bending to soldering.

If there is any single point that I can reiterate it is be restrained with the amount of solder used. Even a thin coat of solder yields enough holding power for our type of work. Using too much solder only will cause more build-up, less definition, tougher clean-up, and worse—destroyed parts. If a mistake is made, soldering also has an added benefit in that you can un-solder parts if needed. Yep, just add a little flux to the area, reheat and pull the pieces apart. This is especially handy if you should happen to attach a part incorrectly or it becomes crooked during soldering. Try doing that with glue!

Of course, the bending and soldering is only half the game. There is still the matter of painting and weathering your kit. When working with any mixed media kit, it is important to thoroughly clean and prime the parts before painting. This is especially true when working with soldering, as there will undoubtedly be some remaining film or grime from the process. Washing can be done with soapy water, as the Flux is water-soluble. When choosing a primer, I look for one that I know will adhere well to both the plastic and photo-etch surface such as Gunze's Mr. Surfacer 1000, or Plasti-Koat automotive primer.

Sprint to the end

I paint the base and camouflage colors of Flak gun and trailer using Tamiya paints. After sealing the base colors with Johnson's Future acrylic floor wax I apply dot filters using a variety MIG Productions Abteilung artist's oil paint colors. Filters, also from the MIG Productions line follow to provide subtle color variations to the base colors and then finally MIG Productions pigments are used to add a layer of dirt and grime, especially to the lower areas of the gun and wheels of the trailer.

I hope that this small demonstration will serve to take a little of the mystery out of soldering by demonstrating a few simple techniques. Enjoy the brass bits and happy modeling!

—Rick Lawler

MMiR RECCE

Trumpeter Flak 43. Kit number 02311.
E.T. Model 3.7cm Flak 43 (for Trumpeter). Item number E35-026.
Lion Roar 3.7cm Flak 43 Metal Barrel. Item number LNRLB3514.

Realistic Weathering

For a change of pace, we present the work of Chuck Doan. Chuck has entirely devoted his modeling skills to railroads and old machinery. Although there is no armor in his collection, the techniques that he uses have been gradually creeping into our niche and we think all of them will find a use on your next project. He also introduces a variety of new and interesting products not normally seen on the armor modeler's bench and we will highlight these at the end of the article.

I have been building models since I was eight years old. Over the years my interest has developed into a love—maybe even a lust—for detail and weathering. For reasons I cannot explain, I get the most enjoyment from observing real world minutia and trying to replicate it in miniature to the best of my abilities. I like to absorb the hard details as well as the "in-use" or "was used" evidence that brings an extra level of realism to a model. I study real world weathering to figure out why and how things got that way. I love to try to achieve "casual decrepitude;" to make a model look weathered without it looking like it's been weathered.

My main area of modeling interest is railroads, in particular western, narrow gauge logging lines. However, I love all manner of machinery and old buildings, and the more weathered the better. I don't want to own a beat up car, and I don't want peeling paint on my house (or my neighbors). That said, I wouldn't consider building a model that wasn't weathered to some degree.

I like to spend nearly as much time researching my subjects as I do building them. The Internet has opened up a huge new world of information and pictures, which I use for reference and inspiration. In particular, the photo site Flickr has introduced me to hundreds of weathering enablers who stoke my passion. There are many groups of photographers who love rust and crust as much as I do, and they post thousands of pictures to peruse. I have also discovered many modeling sites where one can see superb modeling, both in finished presentations and also helpful step-by-step topics. I am grateful for the generosity of so many modelers who freely share some of their best modeling secrets. I have no objection to trying someone else's techniques on my own models. Getting results I like is the most important thing, whatever the source. I have also long agreed with the idea of going beyond my immediate interests and looking at what modelers in other fields are doing.

For a while now, my projects have been collapsing in on themselves, becoming smaller and smaller concentrations of detail. I have recently been doing a series of small dioramas that fit into my Dad's custom-made display cases. I like having boundaries so I'm not tempted to bite off more than I can chew. I never regret doing the detailing when it's done, but sometimes the doing can get tedious in spots. I would lose interest if the project were too big. Most of my models have been built in 1/4" scale (1/48). Recently, I have experimented in larger scales both 1/2" (1/24) and 3/4" (1/16). The bigger scales provide a greater degree of detailing possibilities. At this size, it becomes even more important to limit the size of the project for sanity's sake.

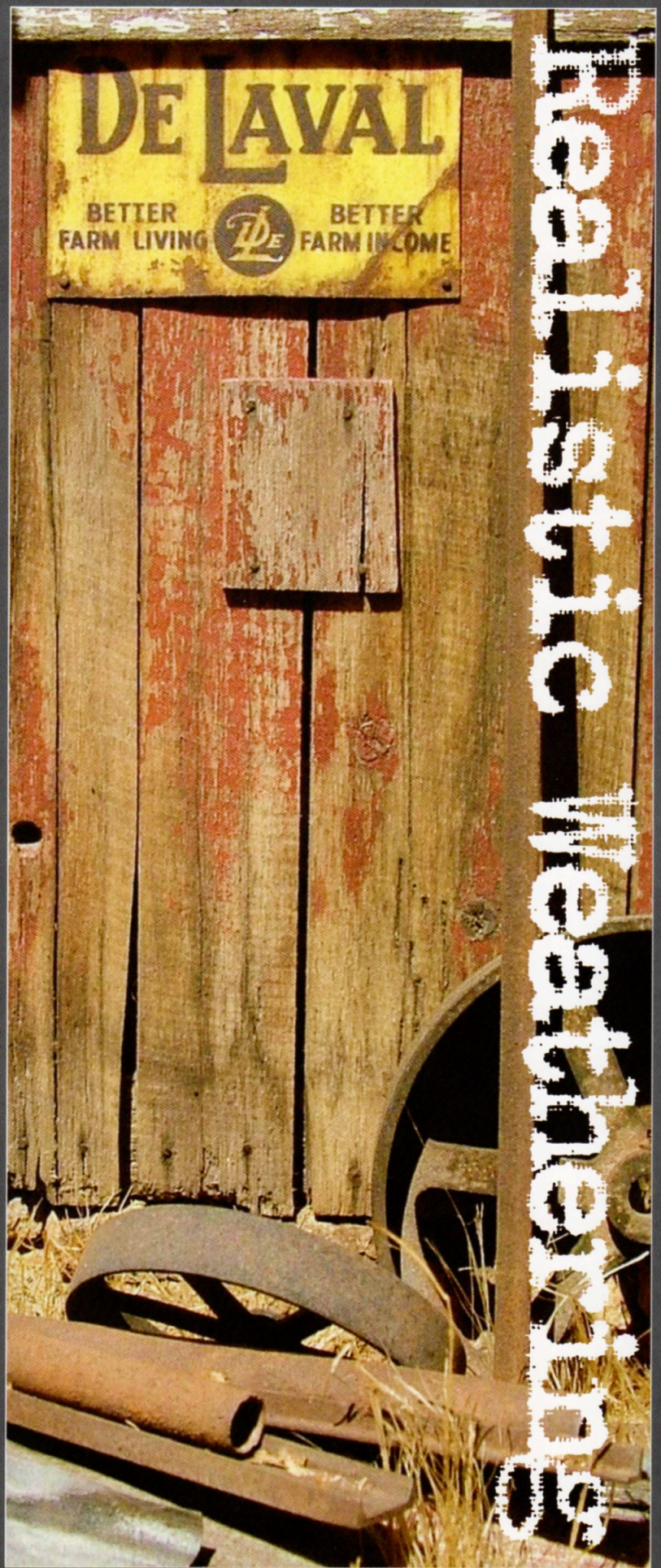
For most of my modeling career, I did not photograph my work. But since the age of digital photography, taking pictures has become an indispensable part of my hobby. I use the camera to get a "second opinion" on works-in-progress, and also to take final pictures to share on the Internet. I prefer shooting in full sunlight, and while the shadows can obscure details, they also provide a realistic element to my shots.

I do admit to occasionally engaging in "macro modeling"—building details no human eye will see at normal viewing distances. Sometimes it's fun to find out what the camera will see when it's a half an inch away.

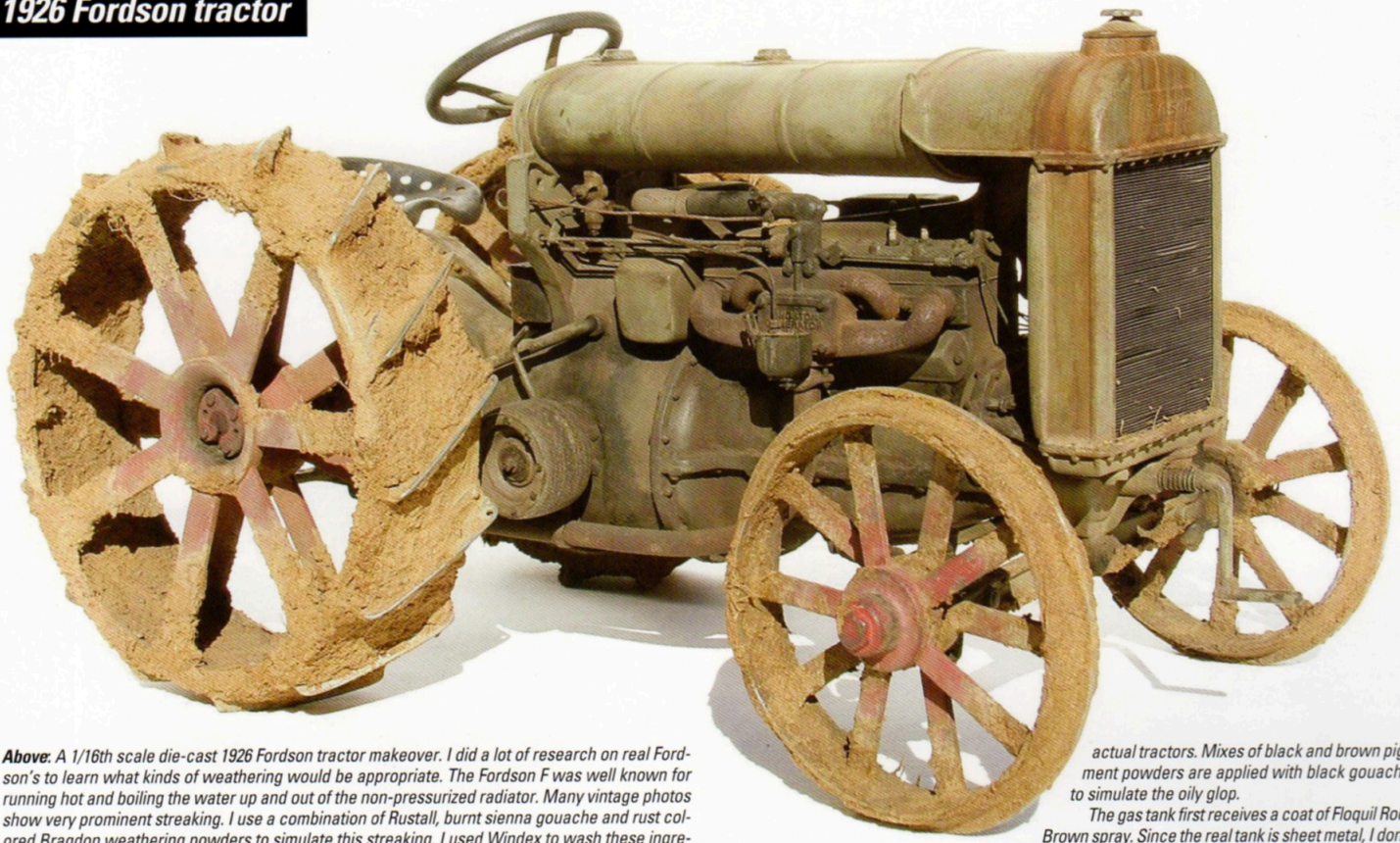
When I am really into a project, I like to savor it. I flat out refuse to bring deadlines to my modeling. It is my escape from all of those similar things. The idea of rushing a model for some event is utterly repugnant to me. That show or contest will be over in the blink of an eye, and how much building enjoyment did I miss? I definitely side with (or at least attempting) quality over quantity.

The following are several short essays describing a variety of my projects. I hope that you'll find inspiration in my work!

—*Chuck Doan*



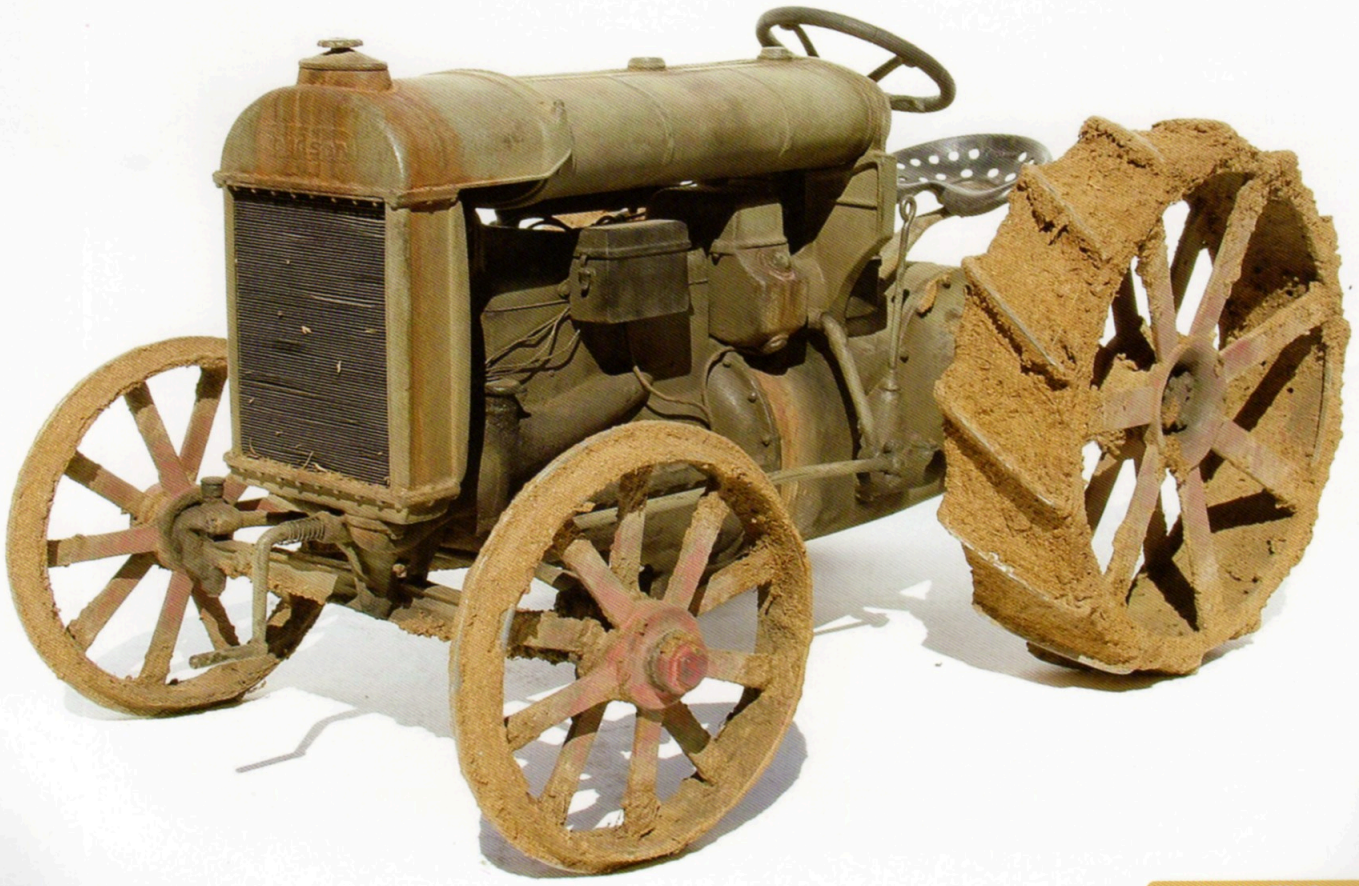
1926 Fordson tractor



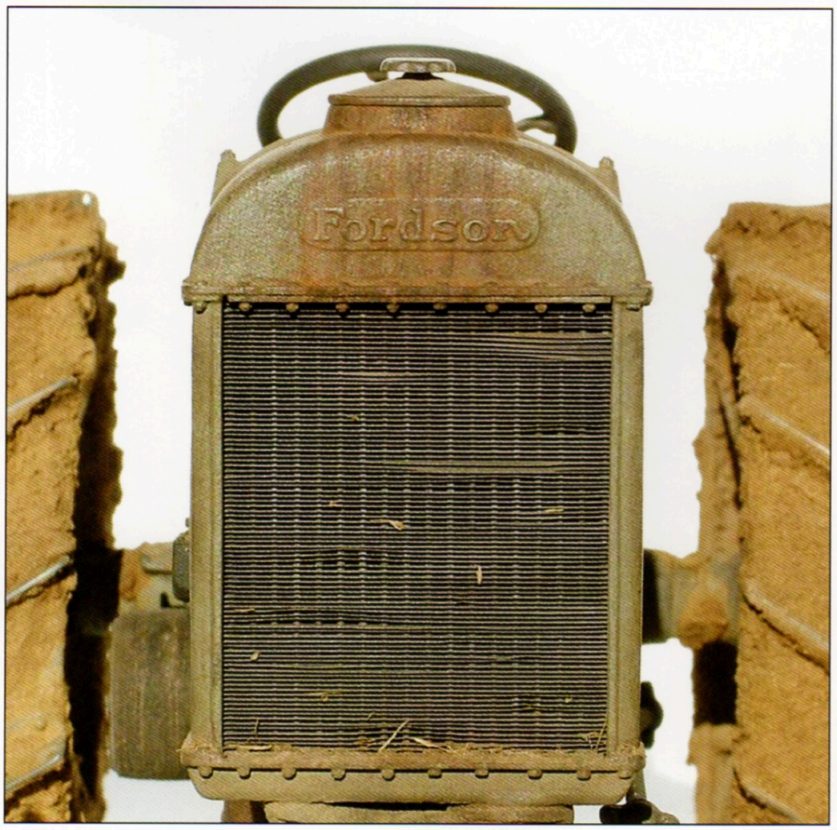
Above: *A 1/16th scale die-cast 1926 Fordson tractor makeover. I did a lot of research on real Fordson's to learn what kinds of weathering would be appropriate. The Fordson F was well known for running hot and boiling the water up and out of the non-pressurized radiator. Many vintage photos show very prominent streaking. I use a combination of Rustall, burnt sienna gouache and rust colored Bragdon weathering powders to simulate this streaking. I used Windex to wash these ingredients down over the radiator until I get a nice look. The laminated paper belt pulley(power take off) apparently hasn't been used or maintained for a while, and it's deteriorating nicely. The front and rear wheel hubs also exhibit evidence of ample lubrication. The dent in the front wheel rim(about 10 o'clock) is a common detail on these hard used machines.*

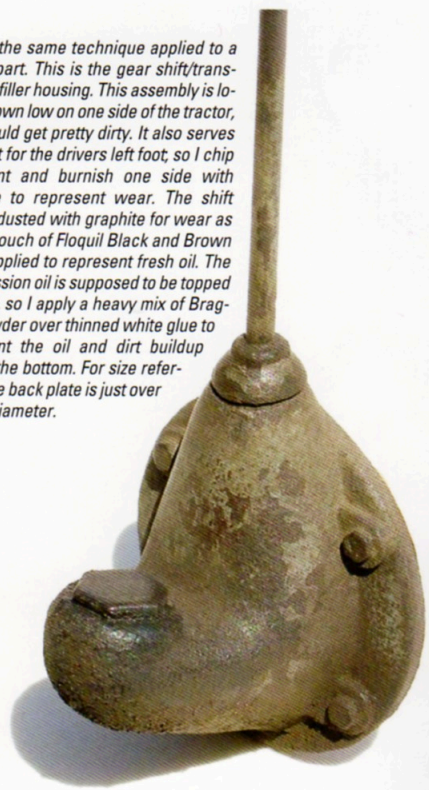
Below: *Lots of fun mess on this side! Rusty residue from draining the water out of the air washer can be seen and a bit of mud splash from when it drained over dirt. There is oil leakage from the steering box, and plenty of spillage around the oil filler. These are" in service" features seen on actual tractors. Mixes of black and brown pigment powders are applied with black gouache to simulate the oily glop.*

The gas tank first receives a coat of Floquil Roof Brown spray. Since the real tank is sheet metal, I don't need the texture coat I use to simulate sand cast parts. Once dry, I add dabs of liquid latex and then I paint the tank with several thinned coats of Polly Scale EL gray. I remove the latex chip masking and began to apply various Bragdon weathering powders. At one point I give the tank a coat of Dullcote, which darkens the powders in a way I don't like. I did some wet sanding with 1500 grit sandpaper to remove the bad bits, and then did a lot of back and forth of adding and removing powders. The filler caps are apparently galvanized plated. I use grey paint and white powders to simulate the finish. A touch of graphite is added for wear sheen. A black wash and" wet" water(water with detergent) are applied to simulate spilled fuel.

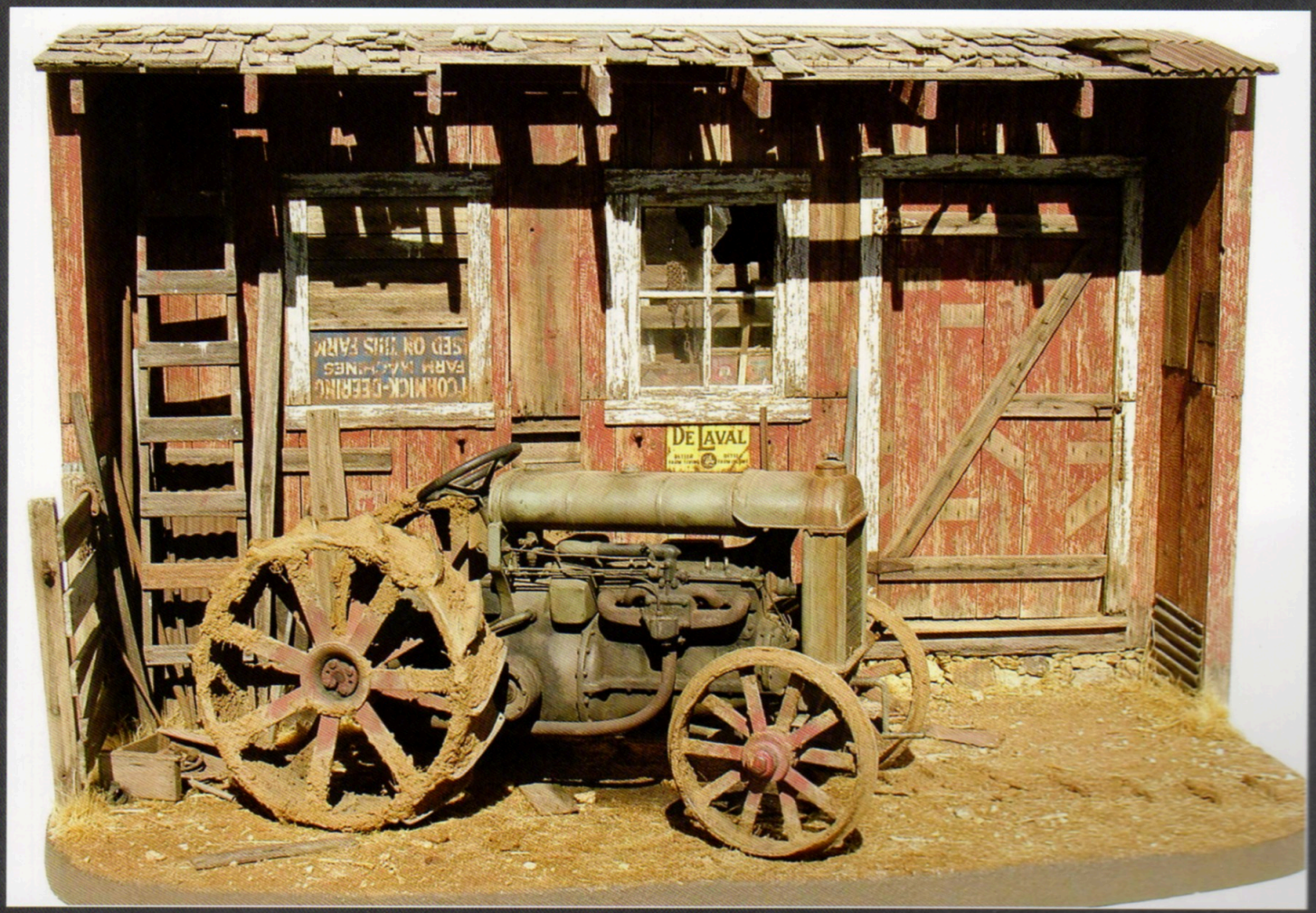


Above and below left. *I was able to try several new ideas on the Fordson tractor, including using spray paint for a cast texture. The complete method is as follows: 1. A light coat Krylon spray can metal primer is applied, and then checked for flaws. 2. Bolt heads and any other non-cast items are masked with Shiva Liquid Masque. 3. Krylon metal primer applied; straight on bursts at a distance to create texture (just what you are not supposed to do when spray painting). 4. Remove mask. 5. Apply light coats of Floquil Roof Brown spray for chip undercoat. 7. Mask for chips (I only did a few). 8. Several thinned coats of Polly Scale E and L Gray, brushed on. 9. Remove masking. 10. Apply Bragdon pigment powders. 12. Careful wet sanding with 1500-grit sandpaper is done to highlight the cast texture. Note the" chaff" stuck in the radiator. This was something I noticed on many vintage farm pictures, so, when in Rome...*





Here is the same technique applied to a plastic part. This is the gear shift/transmission filler housing. This assembly is located down low on one side of the tractor, so it would get pretty dirty. It also serves as a rest for the drivers left foot, so I chip the paint and burnish one side with graphite to represent wear. The shift lever is dusted with graphite for wear as well. A touch of Floquil Black and Brown mix is applied to represent fresh oil. The transmission oil is supposed to be topped off daily, so I apply a heavy mix of Bragdon powder over thinned white glue to represent the oil and dirt buildup around the bottom. For size reference, the back plate is just over 1/2" in diameter.

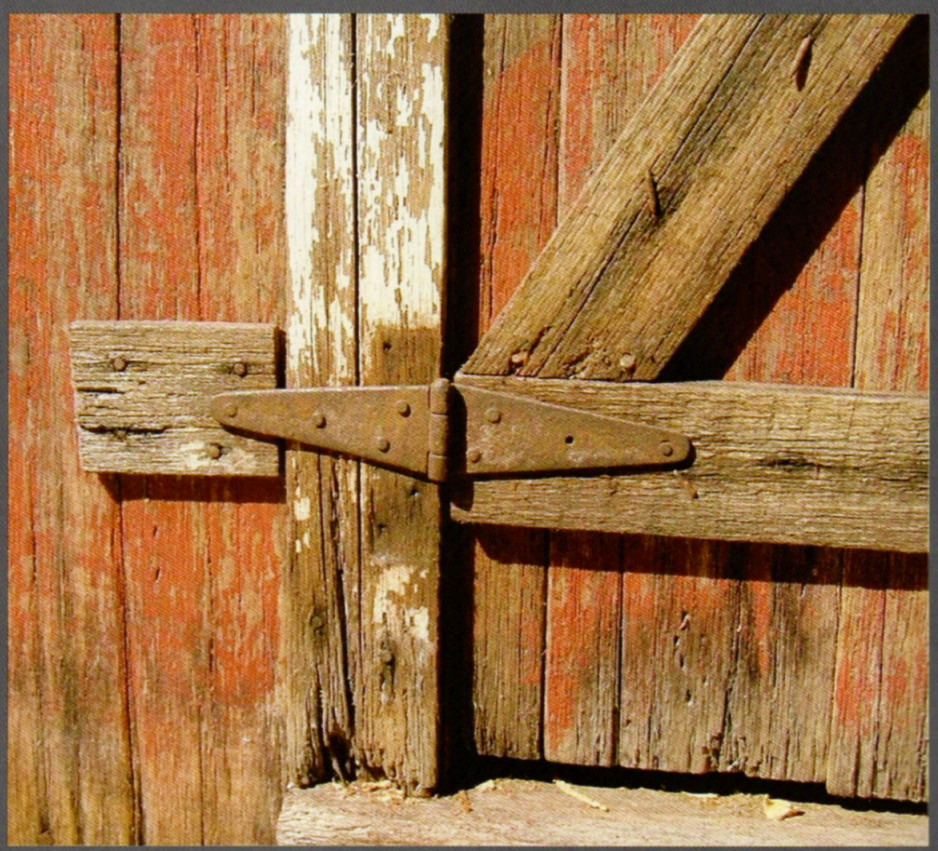


I build a 1/16th scale diorama to use as a backdrop for the Fordson die-cast tractor. It is built on a" stage" that would fit into one of my Dad's custom display cases. I love old barns and tractors, and I started by doing some research on the Web. I did an image search using Google, entering names such as Barn, Barns, Mail Pouch barns, etc. Fortunately, a lot of photographers share my interest, and I found many great pictures of old, wonderfully decrepit barns. One of the better sites is the photo-sharing forum called flickr.com. I recommend this site for many other subjects, try searching subjects like Rust, Peeling paint, Rural decay, and Weathered wood(and, of course, Barns!)

The large scale allows me to try a new level of detailing, including saw cut marks on the boards, and individual knotholes and nails. I originally plan to make a Dutch style door for my barn wall, but after doing some research on the web, I find a great picture of a door with some neat details and I can't resist the external bracing and the recycled boards. I don't try to make an exact copy, I just borrow some of the flavor. The idea is to represent a door that has been replaced at some point using boards from another part of the barn. The door boards are cut and finished the same way as the other boards on the wall. The main difference is masking where previous framing once covered the boards. After painting and peeling, I add" used" nail holes and stained them with SilverWood stain. The Z-bracing is made from scale 1 x 4 material. I run the face of each piece across the edge of my disc sander to simulate rough-cut saw marks, and then use a wire brush and an X-Acto blade to add grain detail. I assemble the door boards with" stair-step" sag. Once the bracing is glued on, I drill some holes and add some hammered over nails (.01 brass wire), simulating the " too long" nails used to fasten the boards. I see this kind of detail on many barn door examples I found on the web.

Here is the method I used to finish the wood siding. Wood prep: I start with Midwest brand basswood. I sand the surface with 400-grit sandpaper, and then add grain with a wire brush. I add splits with a #11 X-Acto. I experiment with adding rough-cut saw marks to some of the boards by dragging them across the edge of my disc sander. This is a subjective technique, but well worth it in this scale since rough-cut boards are commonly used in barns and the circular marks really show up well. I chew up the bottoms of the boards with the X-Acto, picking sideways with blade. The knots are made thusly: I disc sand a piece of square strip wood slightly round and tapered, and cut it off. I then drill a hole in the board and press the "knot" in, small end first, like a cork. It is then glued in from behind. Some of the knots are made in an oval shape as well. I then add some insect damage with a dental pick. I do a final light sanding with 400-grit sandpaper to de-fuzz as much as possible, while not losing the grain detail. Finally, I scrub each board lightly with short stiff paintbrush to clean out the grain.

Finish: I use Builders In Scale SilverWood stain, about five to eight applications. I apply some Bragdon powders using an artist's stump, trying for some of the color variations found in old wood. I use black, grays and browns. I then "wash" the powders in a grain flow pattern by brushing on Acetone. The paint is applied one board at a time, by first brushing the surface with paint thinner, followed by a couple of brushed out coats of Floquil Polly S Oxide Red. After a minute or so, I take Scotch Magic tape and lift the paint in a random pattern. I then lightly scuff sand the paint with 400/600-grit sandpaper to dull and fade. The faded water stained bottom method: I stop painting right about I want the fade to start. I take a small stiff brush dampened with Acetone and wipe from the bottom up. Acetone lightens the SilverWood stain. I then apply Bragdon white powder. I wash and blend the powder with acetone until just a trace of grayish white is left. I then take a sharp tipped brush and carefully apply SilverWood along the top edge of the fade line and other spots, almost as a dry brush since SilverWood spreads and creeps easily if too much applied.



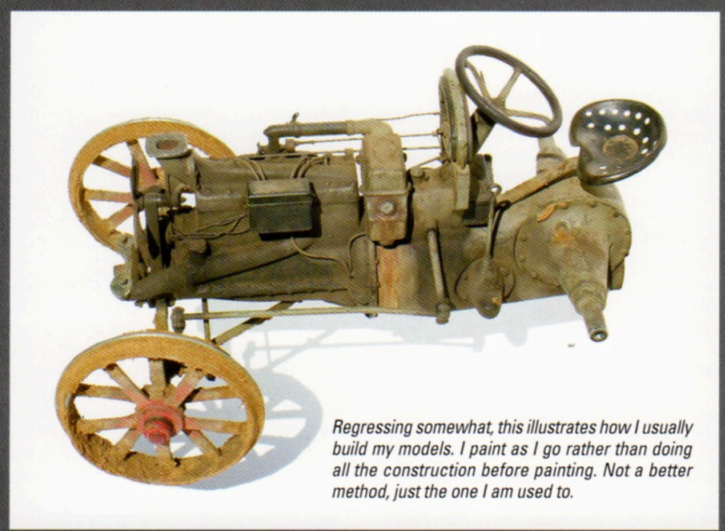
***Right:** I mask an area to represent where a previous hinge was used, further reinforcing the idea that the door (and hinge) has been replaced.*

Above: *More details: here is a collapsing box of junk set in place and" bedded in." The ground cover includes bits of sagebrush twigs and bits of bark along with jute macramé twine and various sized rocks from the real dirt I use.* ***Below left:*** *Most of the nails are made using brass wire that is cut off and pressed into drilled holes. The" 3-D" nails were made using nylon fish line. I cut a short piece and chuck it up in a pin vise, leaving about 1/32 exposed. I hold this up to a flame until it balls up, and then I squish it on a flat surface. I sand the head flat and I am good to go. I kink a couple over with a little heat persuasion, paint them with Floquil and install them in pre-drilled holes.* ***Below right:*** *This sign is printed on photo paper using my Epson printer from a photo found on Flickr. I cut it out slightly oversize and using folded Scotch tape, I carefully touch the surface to lift the ink and create paint chips. I fold one corner of the sign and chip the crease to simulate a sign that has been bent. I then smear Bragdon rust powder over the sign with a soft brush, and work the powders into the chipped areas. I brush off most of the remaining powder in a vertical direction. Then comes a few fogged on coats of Dullcote right from the can. After drying an hour or so, I carefully peel off one layer of paper from the backside for a thinner look and seal it with a couple of heavy layers of Dullcote. I trim the sign to final size with scissors and use double sided tape to affix it to a piece of styrene sheet for handling. Then I apply the final weathering by dusting on Bragdon rust powders and then streaking vertically with a sharp tipped, dampened brush. I also dab some areas with the edge of a damp sponge. This is a very subjective step that took the most time with lots of re-working(I scrap about four signs before this one). When done, I poke some holes in the corners and glue it to the wall with dabs of white glue. I use four fish line nails to finish it off.*

Above: *Windowsill details. The labels are printed on my inkjet printer using vintage artwork found on the Internet. There are even spider webs made from teased out cotton!* ***Below:*** *Even the roof received a heavy dose of detailing. I love adding texture and debris to help add realism. A study of real barn photos provides a lot of detailing ideas.*

The finished window. Construction: I gather up pre-cut Midwest and Mt. Albert basswood that match the scale sizes I will need. The mullions(crosspieces) need to be 1/2" square, which scales out to 1/32" square in this scale. I find an old strip in one of my storage tubes that has to be at least 25 years old. I just want to say another quick thanks to whoever figured out how to accurately cut such small strips of wood! It makes my job a lot easier! I then draw a scale plan using AutoCad. I first draw the outer frame and mullions to match the opening in the wall. Then I draw an inner frame, whose pieces overlap the pane openings by .02." This edge will support the glass just like a prototype window. The frame is glued together using yellow carpenters glue. A small square insures that things didn't get too far out of plumb. Once the frame is assembled, I cut the panes using .006" thick microscope cover glass. This thickness almost exactly matches 1/8" thick glass in this scale! Cutting the glass is another matter. All I can say is get plenty of extra pieces, and use a good cutter(which I don't have). I finally got three usable pieces and I glue them into the frame with tiny spots of gel super glue. I intentionally scribe and break one pane and glue both pieces in. I take some of the many broken pieces I create(!) and glue them into the upper right opening.

At first I am stumped as to what material to use for the glazing putty. I build a quick section of window frame so I can test ideas out. I try bits of .010 x .020 styrene strips, but that doesn't look right. Then I remember having some Squadron white putty. You plastic modelers have been using Squadron white and green putty for years to fill gaps and build up surfaces. So I try some out and get immediate positive results! I use a wide, flat-ended X-Acto blade to apply the putty perpendicular to the frame. The putty I have is a little old and I have no luck dragging the blade parallel to the frame as one might tool a real window; it just keeps curling out behind the blade. So I just pack it in, one blade width at a time, not bothering to create a perfect wedge shape yet, just close. When the putty dries, I take a sharp #11 X-Acto blade and carefully scrape it parallel to the frame, carving the putty down to final size. This action imparts a nice uneven surface finish. Occasionally, a section will loosen or drop out. I leave some of these out, others are carefully glued back in to simulate loosened putty. The Squadron putty seems to stick well, but even if some pieces later fall out —all the better! I scribe a few cracks in the surfaces and then do a final application of brown Bragdon powder to highlight and dirty it up. Sawdust chip" leaves," old bits of putty and a shard of glass fill the gap between the window and the sill. The glass is dirty from handling, so I take a Q-Tip and clean away the most offensive fingerprints. Then I dip a stiff brush in water and thumb spattered the back of the glass. When dry, an application of fine powdery dirt is brushed on and gathered into the corners. All together this is a fun little" sub-project" for my diorama. Real wood, real glass and real putty come together better than I hoped for!



Regressing somewhat, this illustrates how I usually build my models. I paint as I go rather than doing all the construction before painting. Not a better method, just the one I am used to.

1/4" scale tractor under repair

Not too long ago, I built a little country gas station/garage diorama, and I wanted something to put in the service bay, undergoing repair. The Fordson tractor kit from McKenzie Iron and Steel (by Bill Roy) fit the bill perfectly. This is an excellent kit of a common prototype. I want to build the farm version, but the wheels are unavailable. So, I decide to make a county road maintenance tractor with the hard rubber wheels. For reference, I have a tattered and grimy 1927 Fordson manual, a very nice 1/16 scale die-cast model I borrowed from my Dad, and the very detailed instructions in the kit.

I build the tractor pretty much straight from the box. I scratch build a new manifold from styrene and brass wire, basing it on one from a real tractor my Dad helped restore. I also build a new coil box from styrene, after losing the kit version in the carpet. The front spindles are made from parts out of an old wristwatch. The spark plug wires are stripped from fine insulated electrical wire and routed appropriately. I leave the front wheels and steering gear off, and remove the gas tank to better see the engine. Speaking to Bill, be suggests adding a lot of tiny details like a head gasket and radiator hose clamps, but I decide that is a bit much! But then I add the spring on the starting crank with .002" wire, and the control rods to the carburetor!

I begin the final finish after most of model is assembled. The wheels, seat and steering wheel are done separately. The fine detail like the plug wires and control rods are added last and painted in place. I really like to weather soft white metal parts, since I can take advantage of the blackening feature of the alloy. I first use Blacken-It on each casting. Different metal alloys blacken differently, sometimes coming out black (duh) and sometimes with a rustier look if left in the solution a bit longer. Be sure to rinse well when done! I began painting with Polly Scale CP Gray. This isn't a great match for Fordson Gray, but I figure the old girl has probably been re-painted a couple of times with whatever paint was on hand. The lighter gray also shows up better inside the garage. I slightly thin the paint with water, and apply it using a brush. I often use multiple thinned washes to build up the color. When I am satisfied with the coverage, I take a sharp toothpick and pick at the paint to simulate chipping. I rub the side of the toothpick over some of the sharp edges and high points to simulate worn off paint. I use the blunt end of a piece of strip wood to rub and wear away the paint on the front wheels. The Polly Scale paint is usually pretty easy to remove, exposing the metal underneath. When I am happy with the chipping, I dip the parts in Blacken-It again, which darkens any shiny bits and adds more contrast between the paint and the exposed metal. The radiator face, coil box and steering wheel rim are brush painted with thinned Polly Scale Engine Black. The hard rubber wheel treads are picked and nicked with an X-Acto blade and a pointy dental pick to simulate hard usage. Then I paint the tread area with Polly Scale Engine Black straight from the bottle. When dry, I burnish the treads lightly with my finger to give them a hint of rubbery shine.

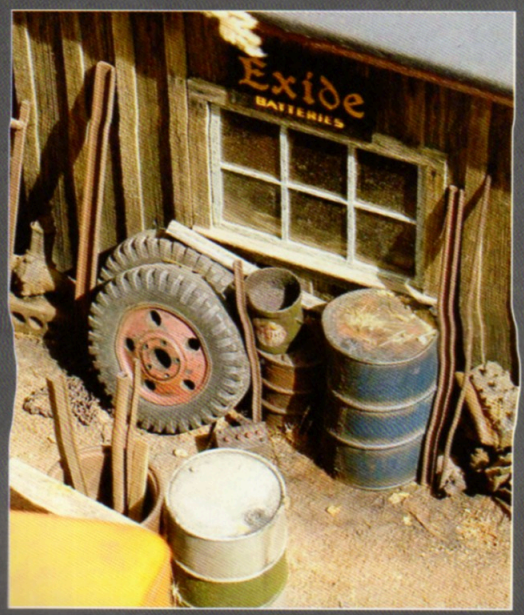
After painting, the next step is to add oil and grease detail. My Fordson manual has an illustration that shows all the lubrication points. Most of these points are supposed to be oiled daily, so I figure there would be plenty of evidence. On some of these areas, like around the oil filler, I use a small brush and apply thinned white glue and then sprinkle fine powdery dirt over it to simulate a heavy build-up of oil and dirt. When dry, I apply washes of oily paint, using a sharp tipped brush. I use a mixture of Floquil Engine Black and Roof Brown, thinned with paint thinner (which gives me more working time than lacquer thinner). I just mix the two inside the lid of my thinner jar until I like the look—not too black, not too brown. Sorry I can't be more exact! I also apply this mix to other points that are frequently lubed, like the front wheel spindles, the wheel hubs and the front axle pivot.

I begin the next weathering step with Bragdon Powders. With a small, soft brush, I dust the model with a mix of brown and black pigments. On some areas I take a brush dampened with water and streak the pigment in a vertical direction. Fordsons are notorious for overheating and boiling the water out over the radiator. I apply rusty pigments and streak and work them with a sharp tipped brush dampened with water. This is a subjective technique and can sometimes take a long time until I'm happy with the result. The nice thing is that the powders can be re-worked as often as needed. The rust pigment is also applied to the manifold area and a touch around the air washer just behind the engine. I dust a fairly heavy (dry) application of light brown pigment on the rear wheels, concentrating on the outer rims and the treads.

Once I finish the powder application, I added a hint of gloss to some of the oily places to simulate recent spillage. I used Floquil High Gloss and apply it with a sharp tipped brush with an almost dry brush technique. It's best to build up to a desired gloss and not flood it on. I find that the combination of the oil glop texture (the fine dirt) and a touch of gloss really" pops" out and helps make the model look " alive," like it is being used. I use this a lot around any frequently lubricated locations on machinery and around the journal boxes on railroad trucks. The last touch was applying ground pencil lead (an old military modeling idea from way back) to the seat, shift lever, and power take-off pulley. I applied it with a soft brush and then burnished the surfaces with a Q-Tip. A rag made from painted tissue paper adorns the rear bracket. I didn't use any final overcoat since the model would not normally be handled.

A lot of words for a tiny model! This is a really fun project made easier by the great McKenzie kit. The little Fordson from the county road crew now sits in my Red Oak Garage, propped up on a (bottlebrush tree) stump undergoing a thorough overhaul. (Hope they don't wash it!)

Above: *The 1/16th scale Red Oak Garage diorama is one of my favorite projects and the final resting place for the kit described at left. I love old gas stations, especially rural ones. I've always been intrigued by the glass topped visible gas pumps. I tried to capture the atmosphere of these old stations, and I used a lot of vintage pictures to figure out what to do.* ***Right:*** *A close-up the front service" island". The oil tank bodies are spray-painted and then Microscale model RR decals are applied. The oil glop is made from fine powdered dirt glued on, followed by coloring washes of Floquil Engine Black and Roof Brown. Final weathering is done with Bragdon powders.* ***Below:*** *Some more clutter, typical of small repair shops.*



New garage diorama in progress

This is part of a 1/24th scale garage diorama project. I am only building one wall, so I am going nuts with the detailing. I wasn't getting any satisfaction in 1/48th scale, specifically with texture and being able to do(and see) some of the smaller details I like. For this window I use the same construction methods as I did for the one in my barn diorama. I make the frames from O-scale" one-by" thick basswood and I fill them with panes of microscope cover glass secured with Squadron white putty. The upper pane is deliberately cracked, but the lower one cracked in handling. The shade is spray painted tracing paper and the security bars are .02 x .06 styrene strips with Grandt Line model railroad rivet heads. After cutting and adding the rivets, the security bars are first sprayed with Testors flat black spray from a can and allowed to dry overnight. I paint them with several water-thinned coats of Polly Scale green. After about 10 minutes dry time, I take a short stiff brush, dip it in water and carefully brush the piece until the paint softens and begins to chip, exposing the flat black. I then use gouache and weathering powders to add the fading, streaking, rust colors and bleed through.

***Left:** Window close-up. The backs of the windows are dusted with fine powdery dirt. A few sawdust chip leaves are added to the sill as a final touch. The Champion decal is from Microscale decals, and the closed sign is printed from a picture found on Flickr. **Below right:** The Garage front door. I use the same paint peeling techniques as on my barn, but with a couple of new things. I really want to play with green paint since it does some marvelous things when it ages. I have been using Polly Scale Coach Green. Once it is peeled, I discover that dipping it in Acetone causes it to turn bluish, something often observed on old green paint on wood. I have also been wet sanding a dried patch of paint (on a glass pallet) and then using the residual off color green as a wash, and I also use white gouache for fading. As a final step I have been sandblasting the wood with baking soda at 20 psi. to dull the sheen. The Badger Mini Sandblaster from Dick Blick works great for this, and my garage has never smelled fresher! The buff paint is Polly Scale TH&B Cream, which is less yellow than Depot Buff. Like the green, it seems to peel nicely, something not all colors do. **Below left:** A close-up of the screen door on my garage shows the kind of detailing I like to do. The screen is fine mesh stainless filter screen available from McMaster Carr. I dipped it in Archer Etchant to color and thin it a bit.*

Above: *I want a door sign for my garage project screen door. This would be a painted sign as opposed to porcelain one. I started with an excellent MicroScale model RR decal. An N-scale wall sign becomes a nice 1/2" scale door sign. I trim to the edge of the image, and then mount it to a piece of .005" styrene that is .03" larger all around. This keeps the decal film from being right at the edge and chipping during handling. I give the sign three coats of Dullcote spray and let it dry thoroughly. I then wash the sign with applications of white gouache to fade it. This is where the opacity of gouache really works well. I use a cosmetic sponge to get an uneven look. I try to wipe some away to simulate the base red coming through the oxidized layer. Once done, I seal the sign with another coat of Dullcote; a necessary step since while gouache dries flat, it remains forever water re-soluble. The next step is adding some chips, scratches and edge rusting—again using gouache. This work is sealed, and the last step is some rust sponging and streaking. After gluing the sign to the door with epoxy, four brass wire" nails" were installed in the corners.* ***Right:*** *I use the hairspray method to weather this vent pipe for my garage. It is made from .06" diameter Plastruct styrene. Since I am airbrush illiterate, I have a problem. If I hand-brush acrylics, they will cut the water based hairspray. So I try the following: 1. Apply Testors Flat Black spray can base coat and let dry overnight. 2. Apply a fairly heavy aerosol Tresemmé hairspray, let dry for 10 minutes. 3. Apply a light seal coat of Flat Black spray and let dry 10 minutes(I think Dullcote could work too). 4. Thinned with water, I brush on a few coats of Polly Scale colors that match the wall and let dry for 10 minutes. 5. Start removing paint with small stiff paintbrush wet with water. It comes off easily. 6. Fade with white gouache and seal with Dullcote. 6. Add rust gouache(Burnt Sienna), Bragdon powders to chipped areas using sharp brush, sponge and stump. Seal with Dullcote. 7. Streaks added with rust gouache a sharp brush and some spit!*

MMiR RECCE:

Gouache is an opaque watercolor paint that dries completely flat. It differs from traditional watercolors, which are transparent. It can be found in any good art supply store. If there is not one near you, try going to www.dickblick.com. This is a U.S. national chain and the sight contains a store locator. They also offer excellent mail order service and more information about this paint can be found at www.dickblick.com/categories/gouache/

Rustall available from your local hobby shop or directly from the manufacturer: www.rustall.com, captain@rustall.com

Bragdon Enterprises, Cutting Edge Scenery Technologies. 2960 Garden Tower Lane, Georgetown, CA 95634. 530-333-1365 Fax: 530-333-1051. www.bragdonent.com

Shiva Liquid Masque is a masking product used in watercolor painting. It is available at art supply stores and also can be found through Dick Blick.

SilverWood Stain. Builders in Scale have a range of staining solutions that are popular with railroad modelers. They can be found at better stocked hobby shops and also through the manufacturer at P.O. Box 1427 Mukilteo, WA 98275, www.builders-in-scale.com

Midwest Basswood is also a well-known hobby product in the U.S. Direct purchase can be done at www.midwestproducts.com

Mt. Albert Scale Lumber Co., 312 Grays Road, PO BOX 56097, Stoney Creek, ON L8E 1V0 Canada. mail@mtalbert.com, www.mtalbert.com/lumber/index.html

Grandt Line, 1040 B Shary Court, Concord, CA 94518. 925-671-0143, FAX: 925-671-0806. www.grandtline.com, sales@grandtline.com, support@grandtline.com

McKenzie Iron & Steel (1/48th scale models) PO Box 41475, Eugene, OR 97404-0363. mckenzieironandsteel.com/catalog/

CHB Models (Charlie Brommer) are now sold through Sierra West Scale Models, Brett Gallant brett@sierrawestscalemodels.com, 972-618-5563. www.sierrawestscalemodels.com

McMaster Carr: P.O. Box 4355, Chicago, IL 60680-4355. (630) 833-0300, (630) 600-3600, Fax (630) 834-9427. www.mcmaster.com, chi.sales@mcmaster.com

Archer Etchant is available through Radio Shack.

Microscale Industries, 18435 Bandilier Circle, Fountain Valley, CA 92708, (714) 593-1422, Fax (714) 593-1432. microscale.com, railroad@microscale.com

Additional in progress photos of the Fordson tractor diorama can be found at www.modvid.com.au/html/body_large_scale_diorama.html

MINI MEN

A PEEK AT WHAT'S NEW ON THE FIGURE FRONT

Alpine

Alpine is at the top of the batting order for this Mini Men. Their latest in 1:35 scale is a pair of Red Army scouts doing a little sneak 'n peek. As a package, these two are 35129, WW2 Russian Scout Set. Now, let's take a look at them individually. **35127, WW2 Russian Scout #1 (1)** wears the standard two-piece coveralls issued to scouts and snipers. This garment was usually an olive green color with black splotches, but there was some color variation. Russian scouts seemed to like German equipment. This is reflected in this gentleman's choice of an MP-40 for a personal weapon. As with all Alpine offerings, you can choose between two heads. In this case, it's either the standard Russian helmet or the side cap (as pictured). **35128, WW2 Russian Scout #2 (2)** is dressed pretty much the same as his amigo, but his camouflage blouse is untucked. One interesting detail is the fact that he wears the German late-war low boots. Head options include a helmet or a side cap. Both these figures had damn near perfect molding. There are some minute gaps where the arms join but these are easily filled.

Who Dares, Wins is the SAS motto. As with all of the 1:16 scale offerings we've seen from Alpine, **16013, WW2 British S.A.S. Commando (3)** is a real winner. Peter Morton sculpted this treasure and it's a real feast of uniform detail. You have a choice of heads between the pictured beret and the British officer's cap. His uniform consists of the British paratrooper camouflage Denison Smock and the standard issue Serge Battledress trousers. Over the smock is a standardized Sleeveless Leather Jerkin that originates from the trenches of WWI. Interestingly enough, this five inches of British badass is armed with a U.S. made M1 Carbine and has the appropriate ammo pouches on his web belt.

The next figure is a bit off the beaten path when it comes to the subject matter of MMiR, but we really liked the sculpting. **16014, Luftwaffe Ace Werner Molders (4)** was sculpted by Mike Good. Molders was the first pilot in history to claim 100 aerial victories. He flew as part of the Condor Legion in Spain and also the Battle of France and the Battle of Britain before he was killed in Russia in 1941. Ironically, he met his demise as a passenger of a twin-engine plane that had an engine failure and crashed, not in air-to-air combat. His outfit was pretty standard for the Luftwaffe throughout the war, consisting of a black or dark brown leather jacket with a fur collar and those fabulous great blue-grey flared trousers (just like Pat's). The officer's peaked cap is the same blue grey with black leather furniture and silver insignia and trim. The optional head has the Luftwaffe side cap. His boots are suede-lined black leather. Both of the 1:16 scale figures had flawless molding and went together

about as well as anyone could ask for. **www.alpineminiatures.com**

Bravo 6

Bravo 6 breaks away from the Vietnam War theme for a moment with **35105. "Banzai!!!" Peleliu 1944 (5)**. This is a two-figure set that looks very much like a very memorable scene from the HBO mini-series, The Pacific. In the scene, a Marine goes into a cave to relieve himself and ends up being chased out by a screaming Japanese soldier. Anyway, the Marine figure wears the 1941 pattern dungarees (to a point) that were officially called olive drab but were actually a pale green. His headgear is the M44 utility cap. This figure is excellently done except for a mold mismatch on his M1 Carbine. The Japanese soldier wears the Model 98 tropical uniform from 1938. His footwear is rather unique-looking with that separate big toe thing going on. These are called "Tabi." They are now the standard footwear at Ampersand. That super long bayonet was standard issue for the Ariska rifle.

And now, back to the Vietnam theme already in progress. **35041, U.S. Military Police Nam (6)** is a two-figure set of U.S. M.P.s. Both wear the standard 3rd pattern OD green jungle fatigues that are distinguishable from the earlier model by their covered buttons. The seated fellow is perfectly posed for the driver's seat of an M151 Mutt. He wears the standard M.P. shoulder insignia flash but has a camo cover on his helmet and a flak jacket on. The standing figure is really the cooler of the two with nice attention to detail such as the whistle hanging off the little chain on his left breast pocket and the billy club on his left hip. His helmet is nude. This figure set comes with a decal sheet for the M.P. insignia for both figures.

35042, "Me so Horny" G.I. & Boom-Boom Girl (7) is another two-figure set of a U.S. GI and his potential date. The GI wears the 3rd pattern fatigues too, along with a boonie hat. The cassette player he carries is a really nice touch. The female figure is really well molded and comes as a single piece. Casting quality for the M.P. and the "Me So Horny" sets is excellent.

Bravo 6 switches gears again and takes a step back in time to the French involvement in Southeast Asia with its next two offerings. **35201, "Huguette" Agony (1) (8)** Dien Bien Phu '54 includes two figures, a French paratrooper firing his weapon and a Viet Minh who has just been hit. The Frenchman wears the M1947 paratrooper uniform that had a very distinctive "lizard" camouflage pattern. Some of his gear, like the helmet, web gear and canteen are of U.S. origin. His weapon is the 9mm MAT49 sub machine

gun. Our example looks a little funky because we had a broken barrel that was missing a section. There is a jig included to make the butt stock from wire. We liked that. The Vietnamese fellow really looks like he's having a bad day. His PPsH submachine gun was broken too.

The second offering on this theme is 35202, **"Huguette" Agony (2) Dien Bien Phu '54 (9)**. This is a single figure of a French paratrooper firing his LMG 24/29 light machine gun. He also wears the M1947 paratrooper uniform. We really liked these Dien Ben Phu figures and applaud Bravo 6 on being able to come up with truly original subject matter.

http://bravo6.diorama.ru

Bronco

Bronco does so many British WWII subjects that this offering really comes as no surprise. **35098, WWII British/ Commonwealth AFV Crew Set (10)** consists of six figures. Overall, sculpting looks pretty good. The four of the figures wear the denim tanker coverall also known as the Pixie Suit and one of them is tailor-made for the big ol' steering wheel seen in many British/ Commonwealth armored cars. The fifth figure is a little more lightly dressed, wearing the British Serge Battledress. The last figure is also outfitted in the Serge Battledress, but he wears the same leather jerkin we saw earlier on the big Alpine SAS chap. Overall, these figures are a good value. The molding quality and attention to detail are good and you get plenty of figures in the package.

Bronco parts layout is the same as Dragon, Mini Art and Master Box with separate heads, arms, legs, torso and accessories so converting can be a piece of cake.

Dragon

6674, German "Blue Division" Spanish Volunteers Eastern Front 1942-43 (11) is a really nice set for two reasons. The first is the interesting back-story. The Blue Division served with the Wehrmacht in Russia as the 250th Infantry Division (Spanish). They distinguished themselves around the Leningrad sector during some tough fighting before Franco withdrew the contingent because of Spain's supposed neutrality. The second reason this set is appealing can be found in action poses. On the box art, they are

working as a team hunting a T-34. These guys carry a variety of winter gear, which is realistic considering that the Spanish did not have the best supply situation. Two of the figures carry Soviet weapons. The guy in the greatcoat has a PPsH and the light machine gunner wears the two German two-piece reversible padded winter outfit, but carries a Soviet DP machine gun. The gesturing team leader wears a fur-lined leather coat that may be of civilian origin. The only guy who wears full German gear is the gent on one knee with a Tellermine in each hand. He may be lucky in being fully outfitted in uniform gear, but he's probably not as lucky as he probably has to deploy those mines. This is a great set that would be easily converted to regular Wehrmacht or SS dudes by changing the uniform insignia. Molding is good and assembly is as easy as plastic gets.

Dragon seems to be doing a lot of survey sets lately. **6704, German Waffen Grenadiers, 1944-45 (12)** is probably not called German Waffen SS in order to be politically correct, but the belt buckles and collar insignia are the dead giveaway. The belt buckles have little wings on the round insignia. Wehrmacht buckles don't have the wings. This set features four different late war SS soldiers with a variety of uniform articles. The first figure is uniformed in the M44 blouse and M42 pants shown on the box with an Italian camouflage pattern. The second figure wears the two-piece reversible camouflage suit with a detachable hood first issued in the winter of 1943-44. The third figure carrying the MP44 wears a second pattern SS camouflage smock. The Wehrmacht had a similar garment, but it's not as common in reference photos. The fourth figure totes an MP40 and Panzerfaust 60, and wears another version of the reversible padded uniform with elbow reinforcement on the jacket along with the warmer heavy felt and leather winter boots. Overall fit and attention to detail are good with this set but the mold seams are mountainous.

Master Box

We mentioned **3588, Eastern Region Peasants, WWII Era (13)** in Mini Men 56 when we were reviewing the Western Region set (3567). This set is a little different from the previous offering as you get

three children and two adults. The two boys have options on headgear with one boy having a choice between the flat cap show and a side cap, while the other can be portrayed bareheaded as well as with the budionovka cap pictured here. The old codger on the stump smoking a pipe is actually a pretty nice figure. The adult female has optional arms so she can be posed pouring out of a jug as shown, or with her arms at her sides. Master Box did a nice sculpting job on this set in comparison to the earlier Western Region Civilians.

Give Master Box a round of applause for **3591 U.S. Check Point in Iraq (14)**. This is a four-figure set of U.S. Marines in the latest MARPAT uniforms. The body armor they wear is called the Outer Tactical Vest, a replacement for the Interceptor body armor that looks very similar. The helmet is called the Lightweight Helmet, which has largely replaced the PAGST helmet. The first figure is a sniper who carries the M25, a sniper version of the venerable M14. The second figure carries an M4 carbine with a tactical rail system and the third carries an M16. The devil dog taking a knee is armed with in improved M249 SAW also known as the M249 Para. Finicky modelers may want to replace the heads but we liked this set because Master Box has the guts to do modern U.S.M.C. in styrene while everyone else is busy with WWII British and German guys.

Resicast

This round of Resicast figures is a lot like the ones from MMiR 56 as they portray Belgians and British from WWII. **35.5632, Belgian Soldier "Regiment Cycliste" 1940 (15)** wears a French style helmet and the standard khaki-colored uniform. The brown leather web gear is very similar to the German design of the same period. So is his M1889 7.65mm Mauser rifle.

As far as the British go, Resicast presents two long-legged officers: **35.5634, Officer "Leaning" North Africa 1941 (16)** and **35.5635, Officer with Book North Africa 1941 (17)**. Both wear the tropical version of the original Khaki service dress. All three Resicast figures have good casting quality and are easy to put together.

Royal

Our Royal model figure roundup includes a nice selection of civilians, some animals and even some Germans. Ah, Germans—can't live without 'em! **628, Evacuee Pulling Cart (18)** is perhaps the nicest offering of the bunch and a great place to start. The figure itself is appropriately forlorn as any person would be, having to haul their whole world unexpectedly

to an unknown destination on just two wheels. The detail on the cart and its cargo is masterful.

638, Children Playing (19) is a slightly happier theme. You get three kids in the set. The first little boy has a wheel made from photo-etch parts. The little girl on the swing is a neat idea too, but the boy in his toy race-car takes the cake for originality. This set was great but given the very fragile nature of these small parts, we had a few broken fingers.

As far as **662, Dogs and Cats (20)** goes, the first dog with the suitcase is a real winner. Of course the other animals will fit into a peaceful scene quite nicely too.

And now for the Germans... **668, German Tankers Loading Ammo (21)** is a two figure set. The Panzer crewman wears a sharply and accurately sculpted Wehrmacht tank crewman's uniform. The fellow handing up the shell wears an M43 blouse and a Wehrmacht side cap.

Last but not least is **669, Waffen SS Tank Commander with Map (22)**. Judging from the insignia on his officer's cap, this guy is actually Wehrmacht. That being said, this hard-bitten Panzer Commander is everything Royal is famous for, being excellently sculpted with attention to drapery and clothing seam work being exceptional. We loved all of the figures from Royal even with the broken fingers on some of the kids.

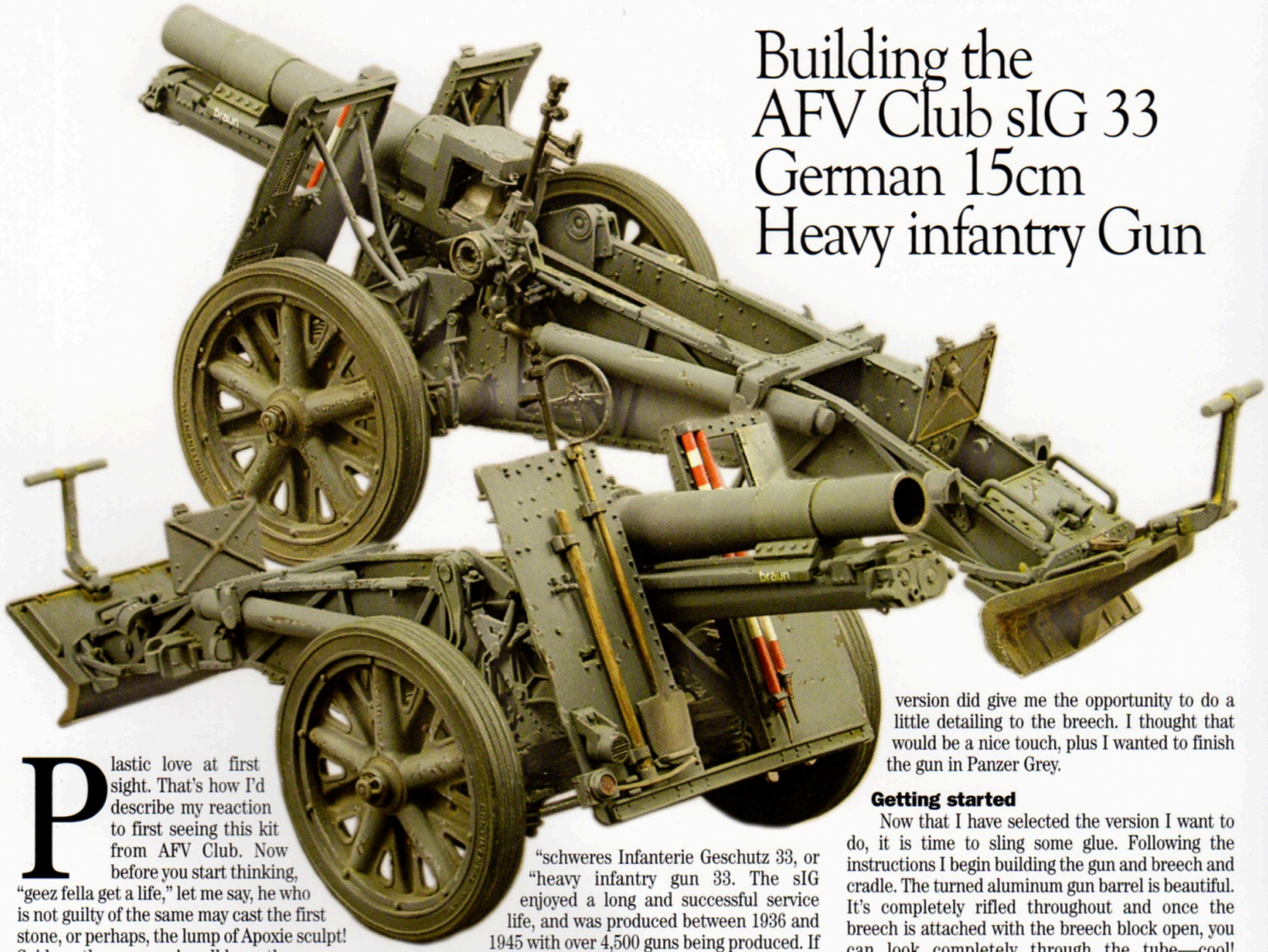
Zvezda

Zvezda is all action with **German Paratroopers 1939-42 (23)**. There are five early-war Fallschirmjager included in the set. They are all dressed out in the reed green second pattern jump smocks and M37 parachutist helmets. The early pattern side lace jump boots are included here too. These figures are very accurate for portraying the combat jumps into Norway, Denmark, the Low Countries and Crete. The inclusion of a figure digging through the Abwurfbehälter container for troops landing under fire is a nice idea, but the most original figure is the trooper hauling in his parachute. The real humdinger is that the parachute is included! Some may notice that there are no unique FG42 rifles included but that is because they were not fielded until 1942. Zvezda's daring with the action posing and the inclusion of the drop container and parachute blew us away. The molding is a little blobby in some places and the heads may need replacing, as they have mold seams running down the middle of the faces.

The manufacturers submit all of the samples for Mini-Men and for this, we are very grateful. The exceptions this time are Master Box and Zvezda, which were submitted by Dragon USA.

sIG Heil?

Building the AFV Club sIG 33 German 15cm Heavy infantry Gun



Plastic love at first sight. That's how I'd describe my reaction to first seeing this kit from AFV Club. Now before you start thinking, "geez fella get a life," let me say, he who is not guilty of the same may cast the first stone, or perhaps, the lump of Apoxie sculpt! Said another way: we've all been there.

Unlike the "real" world, our world of AFV modeling continues to enjoy prosperity everywhere we look. The near simultaneous release of two brand-spankin-new sIG 33 kits in plastic is a perfect illustration of my point. Our subject today is the AFV Club kit. Simply put, AFV has produced a true gem-in-plastic and in my opinion produced the best scale model of this versatile and well-known piece of artillery. The quality of the kit is excellent; molding is crisp, minimal mold lines, and virtually no knock out marks (there is one pesky mark that will have to be dealt with on the face of the elevation cog, part A45). The fit is excellent too, with only a few areas needing filler, mainly in the form of Mr. Surfacer 500. This one is a must have kit if you have any interest in WWII artillery, German or otherwise, with tons of versatility and diorama applications.

The sIG in sIG 33 if you don't know, stands for "schweres Infanterie Geschutz 33, or "heavy infantry gun 33. The sIG enjoyed a long and successful service life, and was produced between 1936 and 1945 with over 4,500 guns being produced. If you've been around the military modeling block at least once you'll know the sIG 33 was way more than your ordinary towed piece of artillery. The Germans pressed this well liked and plentiful gun into service in a myriad of vehicles including the 38t, Panzer II and Panzer III. Well, enough history; let's get on with it shall we?

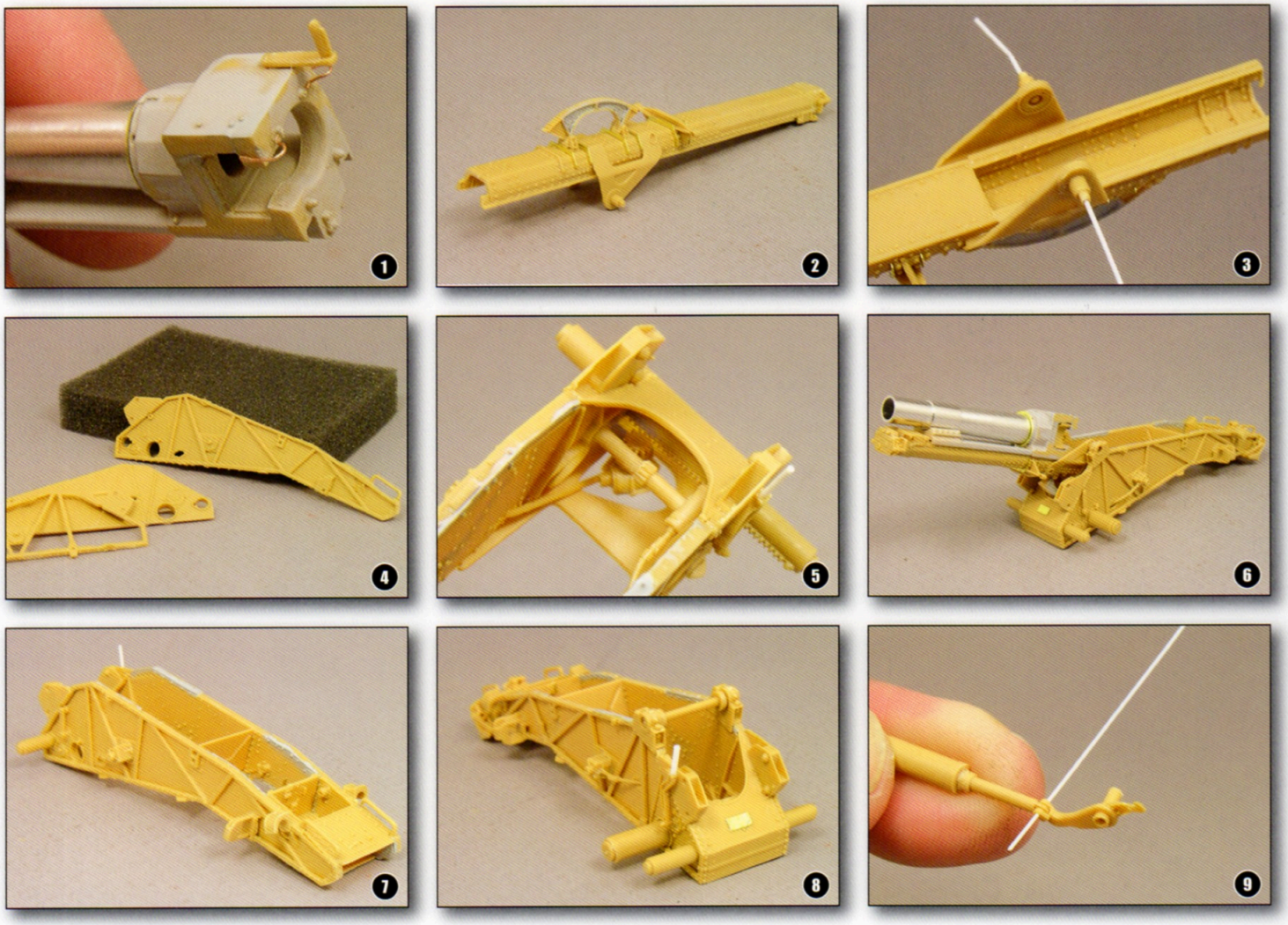
Decisions, decisions...

I begin to tackle this piece by doing a little research. I'm able to get a loaned copy of Nuts & Bolts #19, which has a fantastic section on the towed version sIG 33 gun including dozens of wartime photos and surviving museum pieces. The Nuts & Bolts series is a little pricey, but excellent nonetheless. Comparing reference photos and with the option in mind to build an early or late war, horse drawn or vehicle drawn version—I choose the early war vehicle drawn version. No real reason here, but the early version did give me the opportunity to do a little detailing to the breech. I thought that would be a nice touch, plus I wanted to finish the gun in Panzer Grey.

Getting started

Now that I have selected the version I want to do, it is time to sling some glue. Following the instructions I begin building the gun and breech and cradle. The turned aluminum gun barrel is beautiful. It's completely rifled throughout and once the breech is attached with the breech block open, you can look completely through the tube—cool! Although I know what version I'm building, I take care to make sure I get the parts correct, as the differences can be subtle. I remove the cast on loops on either side of the breech block and replace them with fine copper wire. It's important that the breech locking leaver (part A19) displayed correctly based on whether the breech is left open or closed.

I attach the photo-etch ring (part G6) to the front of the breech and superglue the aluminum gun tube to the breech. Last, I add the tray (part A31) the gun rides on. I set this first subassembly aside and move on to the cradle. The detail on the cradle is exquisite with nice rivet detail inside and out of the rail. Beware of the correct position of part A45, there is a slight difference between the front and the back. After filling those two pesky knock out marks, I make sure it is lined up correctly, and complete construction of the cradle.



***1**. The molded on lifting loops of the early breech were replaced with copper wire.* ***2**. Two knock out pin marks need to be filled on the side of the elevation cog.* ***3**. Working elevation Step One. The lugs of part A25 and 26 are drilled out and round styrene rod is inserted in order to enable the sighting device to move in unison with the gun tube.* ***4**. Detail of the carriage sides.* ***5**. Details… Details… Elevation and traverse gears visible inside the carriage.* ***6**. The gun attached to the carriage.* ***7**. Carriage assembly complete. Mr. Surfacer 500 is used to fill some of the minor gaps.* ***8**. Another view of the completed carriage. Note the white styrene. This replaces a portion of the part I accidentally trim off!* ***9**. Working elevation Step Two. Parts drilled out and styrene rod inserted to permit movement of the piston with movement of the gun tube.*

The gun carriage

I now move on to the gun carriage, and the love continues. AFV Club has approached the detail of the carriage beautifully by engineering it in no less than 12 parts. I pay close attention to the construction sequence to ensure I keep both sides square. Construction entails building up the two sides, as well as the forward and rear floor sections of the carriage. Once this "box" is cured, I add the inner panels; parts B39, 40, 42 and the B26 sub-assembly. Despite being very careful, I still end up with the carriage slightly twisted and out of square. After a few choice expletives, I move on attach the remaining details to the carriage and the trunnions. The instructions show to place—but not glue—a pin (A46) between the two trunnions (parts A42 and A 43). This is to ensure the two trunnions remain parallel. This part (A46) is later cut off once the glue has dried on the trunnions. Once the main parts of the carriage are dry, I add the other parts that detail it further. These details include the various linkages, as well as the elevation and traverse wheels.

Traverse axle

After some test fitting I decide to slightly expand the axle openings on both sides of the carriage. I feel the fit will be too tight once the traverse axle is painted. My plan is to paint the axle and the carriage separately and join the subassemblies later for final weathering. Based on my test fitting of the un-painted parts however, it appears the fit may be too tight. I use some of the excellent round sanding sticks from Alpha Abrasives to gently expand the holes on each side of the carriage. This proves to be a good decision and allows me to paint and detail the traverse axle before I permanently trap it between the two wheels. Before moving on, I glue the traverse axle to the right wheel and brake assembly so this can be inserted into the carriage as a single unit.

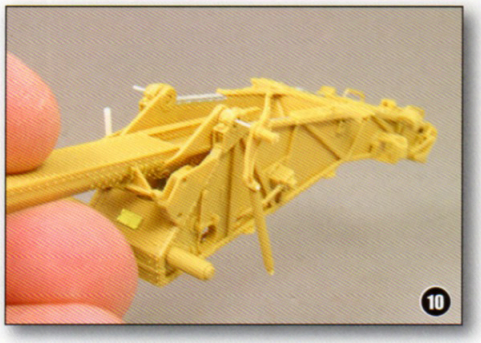
A short note on the carriages built-in stowage box: The instructions show adding two small photo-etched parts (G1 & G2) to the inside lid. Reference photos don't show these parts on surviving guns, so I opt to leave them off. No stowage items are included, but some chain and a few odds and ends will be added later to fill the space nicely.

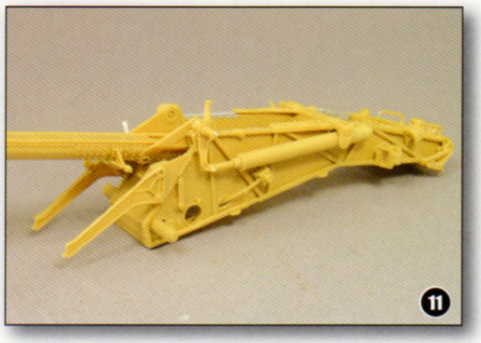
Brake'n it down

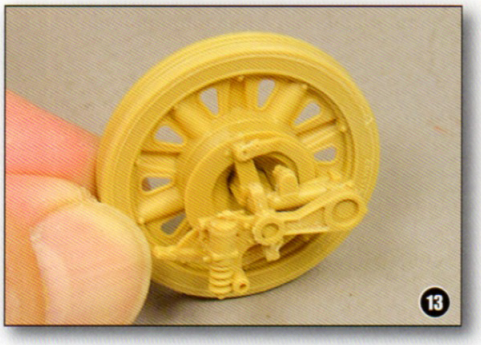
I now move down to the brakes and wheels. In reference to the aforementioned options, AFV provides three different wheels, including two types of pressed steel wheels and a wooden spoke option. I'd already decided to build the vehicle drawn version and I choose the pressed steel wheel and follow the instructions accordingly. I also need to add the brake lines at this point. I do that with .18mm solder. Referencing the Nuts & Bolts photos depicting surviving museum vehicles, I drill out parts D12 and C20 to receive the brake lines. Unfortunately the photos don't show exactly where these lines originate from behind part A20 (the brake fluid chamber), so I take a little artistic license and employ the concept of TLAR (that looks about right). Once it's all put together you can't really see where they originate. The two (left and right) wheel hub and brake assemblies are quite complex and contain some very small and delicate parts. Once together these sub assemblies are quite fragile as most of the joints contain just a single pin. I remove the two rubber tired wheels for the vehicle drawn version and clean up the small mold seam on the tread. I finish by adding the outer hub, chain tie down point (part D7), and the inner brake subassembly. These are left to fully cure overnight. With both wheel subassemblies complete and fully cured, I add the traverse axle (part C15) to the right wheel assembly. Checking alignment carefully, I again place it aside overnight to cure and move on to the last major subassembly yet to complete—the gun shield.

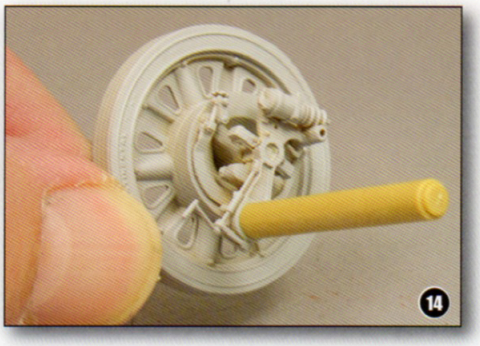
Shields up!

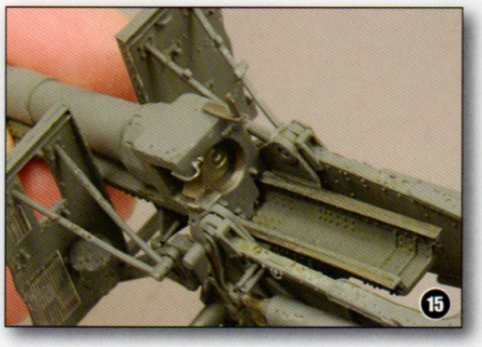
The gun shield is another nicely engineered assembly consisting of 10 parts. I begin by attaching











***10**. Working elevation Step Three. Joining the two assemblies. A hole is pre-drilled in part B35 to accept the styrene rod inserted in A26. A tiny drop of glue on the protruding end holds everything in place.* ***11**. Styrene rods trimmed off.* ***12**. AFV Club provides three wheel options for horse or vehicle towed guns.* ***13**. The beautiful suspension and brake details.* ***14**. The main axle added to one side, and allowed to cure.* ***15**. War weary, chips and scratches, dust and grime added—and not just under the fingernails.* ***16**. Painting begins with a coat of Tamiya German Grey (XF 63) and Medium Blue (XF -18).* ***17**. Upper surfaces highlighted with lightened base coat plus Tamiya Light Grey (XF-66).* ***18**. Tamiya Titanium Sliver (X-32) used for the main axle.* ***19**. Excellent ModelMakerZ pigment powers used to dirty up the wheels.* ***20**. Chips and scratches: Tamiya Light Grey (XF-66) is used for the shallow scratches, while Vallejo German Camo Black-Brown is used for the deeper scratches and chips.*

the two support frame arms (parts A3 and A6) to the gun carriage. I clean up the remaining parts and glue the left and right shields to the beam that supports them (part B46). On the inside of the left shield (B45), I scrape off the molded-on tail light wire and replace it with copper wire then attach the photo-etch tail light mount with a spot of CA glue. I then add the support arms that will attach to the shield support arms already installed. I paint and weather the tools and aiming stakes separately and attach them once the shields are painted. Leaving the shield subassembly detached allows me to paint and weather the main body of the gun and the shield before finally gluing it to the finished gun.

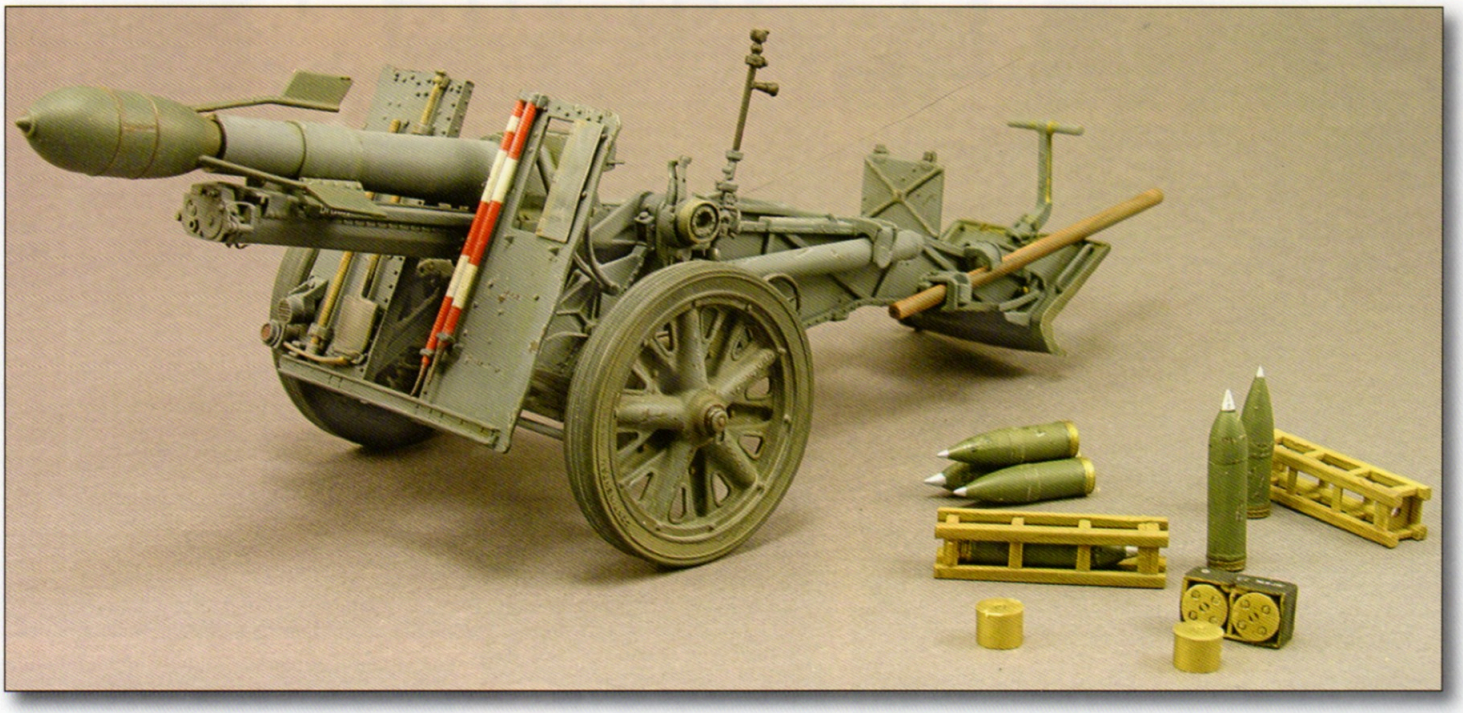
Panzer Grey or Dark Yellow?

Yet more choices… Following on the heels of my Panzer II F, I decide to do the sIG in panzer Grey. I like this color a lot and it lends itself well to the weathering and distressing techniques I've learned over the last few years.

I start everything off by priming all the sub assemblies in Gunze Mr. Surfacer 1200. This stuff is great, but can be hard to find, not to mention expensive. To make my can last as long as possible, I simply mist on a couple thin coats. Once this has dried overnight, I start painting. To begin, I shoot the rubber tires with Tamiya NATO Black, XF-69, this provides a nice worn rubber look right out of the bottle. I also shoot the traverse axle and elevation pistons with Tamiya Titanium Silver, X-32. These are set aside and I move on to the base coat. For my panzer Grey base coat, I mix up a batch of Tamiya German Grey, XF-63 and Medium Blue, XF-18 thinned with Tamiya lacquer thinner to the consistency of milk. I load this into my trusty Harder-Steinbeck Infinity airbrush. With this initial coat laid down I add a slightly lighter coat of the same mixture with a few drops of Tamiya Light Grey, XF-66. This lightening process is repeated once more, making sure to randomly apply these colors. The gun, carriage and wheels all receive this same treatment. To paint the wheels I simply use a circle template to mask off the pre-painted rubber tires and shoot the panzer Grey.

Salsa?

What's salsa without some chips? Whether these guns were horse or vehicle drawn, they no doubt received a lot of punishment—from the environment and the crew combined. While I don't want to completely trash the gun, I do want to impart a significant amount of wear on it. So with that said, I set out to apply chips in my usual fashion. Using a new Davinci (000) brush to gently apply a pre-shade chip using Tamiya Light Grey. These irregular scrapes and chips are then filled with my favorite chip color, Vallejo German Camo Black-Brown. If you haven't



used this color for chips yet, I urge you to invest in a bottle. I have no doubt you will be very happy with the look of the chips using this color. Taking a random approach, I apply these chips to areas prone to wear and abrasion, both on the gun itself and on the wheels. Once satisfied, I let them to set up and prepare to apply filters and washes. I mist everything with a light coat of Mig (Sin Industries) pre-mixed "Blue for Panzer Grey" filter with my airbrush and set it aside. A short blast with a hair dryer dries the filter quickly so I can move on the oil paint fading.

Oil paint fading is achieved using Mig Abteilung oil paints: Abt. 090, Industrial Earth, Abt. 100, faded Grey, and Abt. 135, Light Flesh Tone. I apply a small dot of each on a scrap piece of cardboard to help pull some of the oil out of the paint. After a few minutes, I see the sheen of the oil leeching out of the paint into the cardboard. Once that's started, I dip the tip of the brush into the paint and place a tiny dot of paint randomly on the model. I repeat this with each color. Then, with a clean brush, wet but not dripping in Mig Thinner for Washes, I work the dots into the paint using a downward motion. Once all the dots are blended, I let everything dry to determine if I am satisfied with the results. When it's all done, the results yield a convincing set of streaks and fading, and impart an aged effect to the formerly pristine base-coat. I let everything sit for 24 hours before proceeding.

Approaching Nirvana

Now in the home stretch, I'm ready to finish this impressive little kit. I need to get this thing dirty! I decide to try a small, but impressive line of pigments and acrylic paints called ModelMakerZ. I found the pigments to be every bit as good as Mig and the other commercial offerings I've used. In fact they are even more finely ground than some—and they taste delicious! Applying them dry, adhesion is very good without any sort of binder. I mix two colors: Mustard Yellow and Dark Ash to achieve a dirty brown color that I scrub into the model. Using my finger I wipe away the excess leaving the pigments convincingly gathered in the nooks and crannies.

For my pin wash, I again turn to the Mig line of products. If my wife knew how much I spent on these things I'd never hear the end of it! So remember, what happens in MMiR, stays in MMiR.

Anyway, using Mig's Dark Wash mixed with a little Brown Wash, I carefully apply a pin wash to the multitude of raised details on the gun and wheels. This takes time, so patience is recommended. Last, I apply a small amount of Mig Oil and Grease mixture to the insides and outsides of the wheel hubs.

The shovel, pick and cleaning rod are all primed in Mr. Surfacer 1200 then the wood handles are painted in Tamiya deck tan. Once the deck tan is dry I mix up a couple drops each of Mig brown wash and neutral wash and streak that onto the wooden handles to simulate the wood grain and ground in dirt. The metallic ends are painted in Tamiya NATO black. Once dry, I apply some left over pigment and work that into the recesses around the handles. Last, I take a graphite pencil and randomly mark up areas most prone to wear and abrasion. I then work the graphite into the parts with one of my wife's old sponge tipped make-up pencil. This imparts the appearance that the wear is fresh and the tools have been recently used.

The two aiming stakes are first sprayed in Tamiya White, and then carefully masked off. With the mask on, I spray light coats of Tamiya Red to create the colorful wide red and white bands. The tools are attached with a small bit of Tamiya thin cement.

Now all that is left to complete is to paint the artillery rounds provided in the kit. AFV Club provides three different types of rounds: three each of HE and smoke, and one Stielgranate 42 projectile. Cartridges are provided for the HE and Smoke rounds, as well as their transport boxes. The cartridges even have detail on the base and on the insides to depict either a fired or unfired cartridge—wow! The decals include shell stenciling for each types of shell. The wood transport crates for the rounds even include two types of fuse protector rings. The cartridge boxes have separate lids to depict the box open with cartridges inside. Painting the cartridge cases is accomplished with Testors Model Master bright brass. A light coat of Mig dark wash is brushed on to bring out the fuse detail.

The bodies of each shell are painted Tamiya field grey and the tips with Floquil old silver. I use the remaining mixture of Mig neutral and dark wash to coat the shells and bring out the raised detail. Once this is dry, a few scratches are added with a fine brush. The Stielgranate 42 projectile is painted next. This is different from the other rounds. It is muzzle loaded so that the finned projectile remains outside of the barrel entirely and was fired using a special charge loaded in the breech. The effective range of the projectile was about 1,000 meters (1,100 yd). This round, unlike other Stielgranaten, was not intended for anti-tank use, but rather for the destroying fortified positions, or clearing barbed-wire obstacles and minefields with blast effect.

The Nuts & Bolts book has several photos of a surviving shell and illustrates it in a darker green. I use Tamiya black green for the initial coat. I follow this with one more coat slightly lightened with Tamiya flat white. Once dry, I apply the stenciling to the round and give it the same wash as the other shells. With that done, the gun is done!

If you could not detect my glee building this kit, I've failed in my mission to gush about this beauty! Although a bit fiddly at times, the detail is worth it and results in a "best of breed" among sIG 33 gun kits out there. The possible applications of this model are numerous. I am currently in the process of meshing this gun with the Dragon Bison II. Stay tuned to a future MMiR to see how it turns out!

—Tom Jett

MMiR RECCE

AFV Club sIG 33, 15cm Heavy Infantry Gun, kit number AF35148. Kit graciously provided by the manufacturer. Suggested retail: $40.50.

Alpha Abrasives, Plastic Sanding Needles. www.alphaabrasives.com

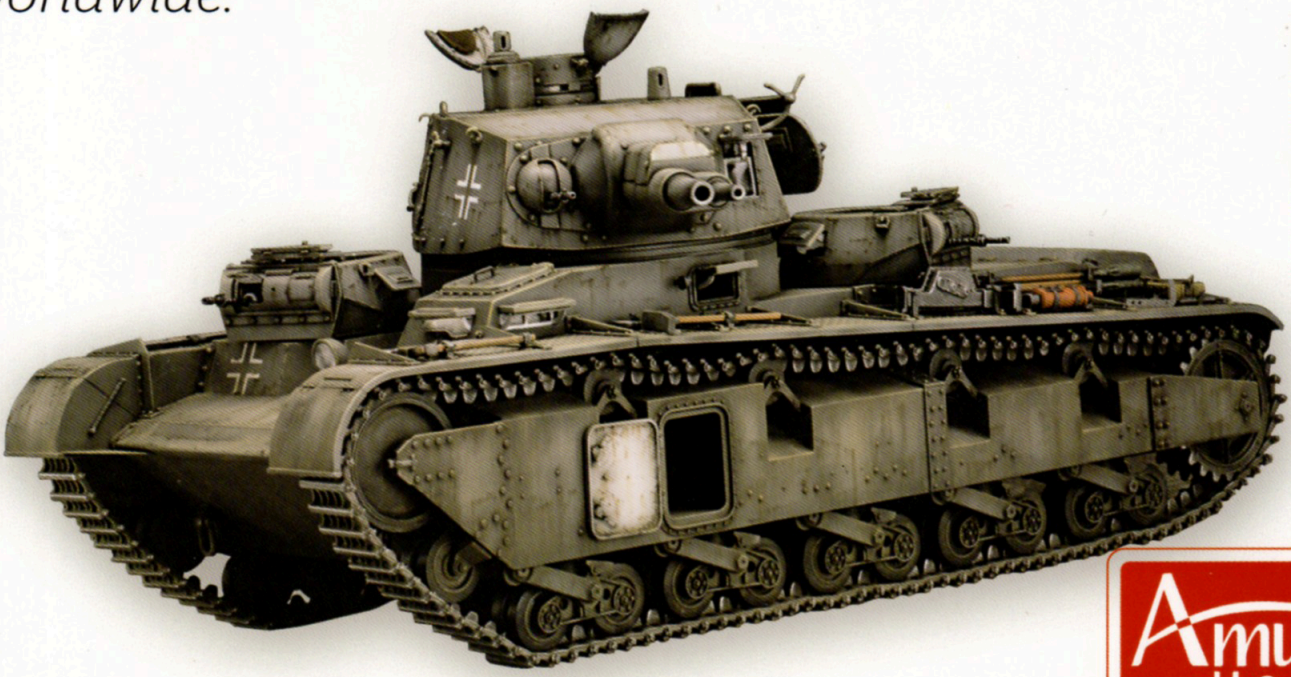
References

Nuts and Bolts ##19, 15cm sIG33 (Sf) auf Pz.Kpfw. I Ausf. B & 15cm sIG33 towed gun by Jürgen Wilhelm. www.nuts-bolts.de

We deliver on Price, Selection and Service.

Since ***1995***, ***HobbyLink Japan*** has been providing *quality model kits* and *accessories*, *worldwide*.

With more than ***90,000*** *items available*, and an *improved website*, *it has never been easier to find what you need.*

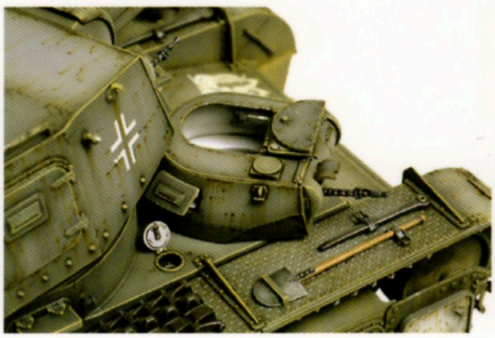


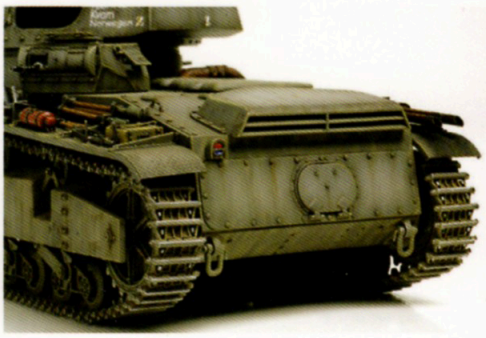
Scan this QR code to go directly to this excellent kit.

Amusing Hobby™

1/35 Neubaufahrzeug (Krupp Norwegian Campaign)

Product Code: AMH35A003





hlj.com/mmir

HobbyLink Japan @hobbylink hobbylink.tv